PRINTING EQUIPMENT *Engineer*

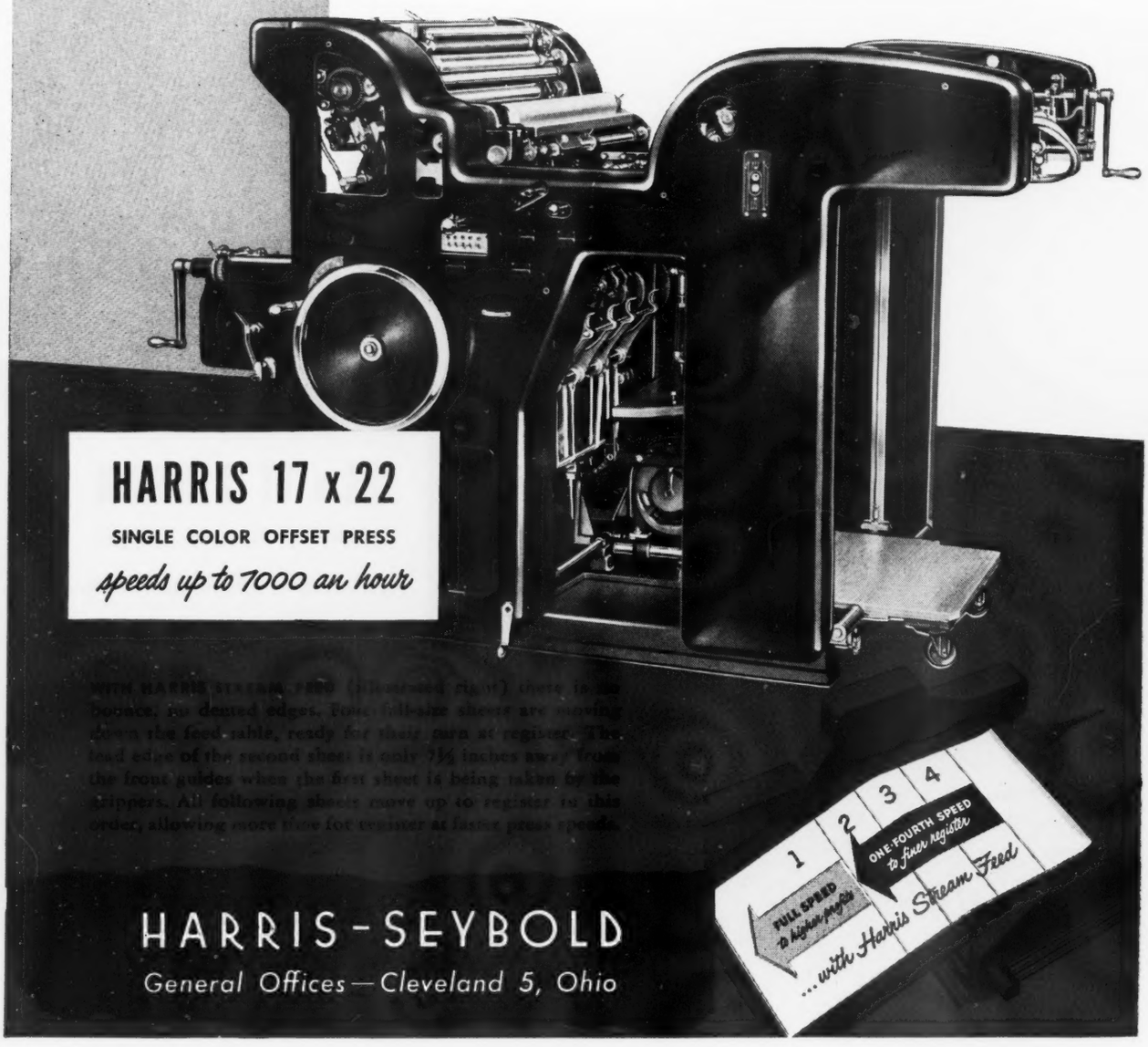
when you "GO OFFSET"

. . . Talk with a man who owns a HARRIS 17 x 22 offset press

WHEN YOU START to think about going offset . . . as you may be right now . . . do yourself a favor . . . talk to a friend who owns a Harris 17 x 22″ offset press.

He will tell you why more printers, in combination shops and straight offset shops, are buying Harris presses than any other make. He will tell you it's because of Harris STREAM FEED that makes for finer register. He will tell you it's because the Harris press has MORE ROLLERS, which makes for smoother inking. He will tell you it's because of other Harris features such as single-point press control, automatic four-way protection, receding pile delivery and many others. They are features that mean easier operation, better quality work, more impressions per hour . . . all of which adds up to greater printing profits.

Get *a better run for your money.* Ask the man who *knows*...a Harris owner. WHEN YOU GO OFFSET, you'll GO HARRIS, too!



HARRIS-SEYBOLD

General Offices — Cleveland 5, Ohio

Watch THE MASTER FORMER WORK ITS *Magic . . .*

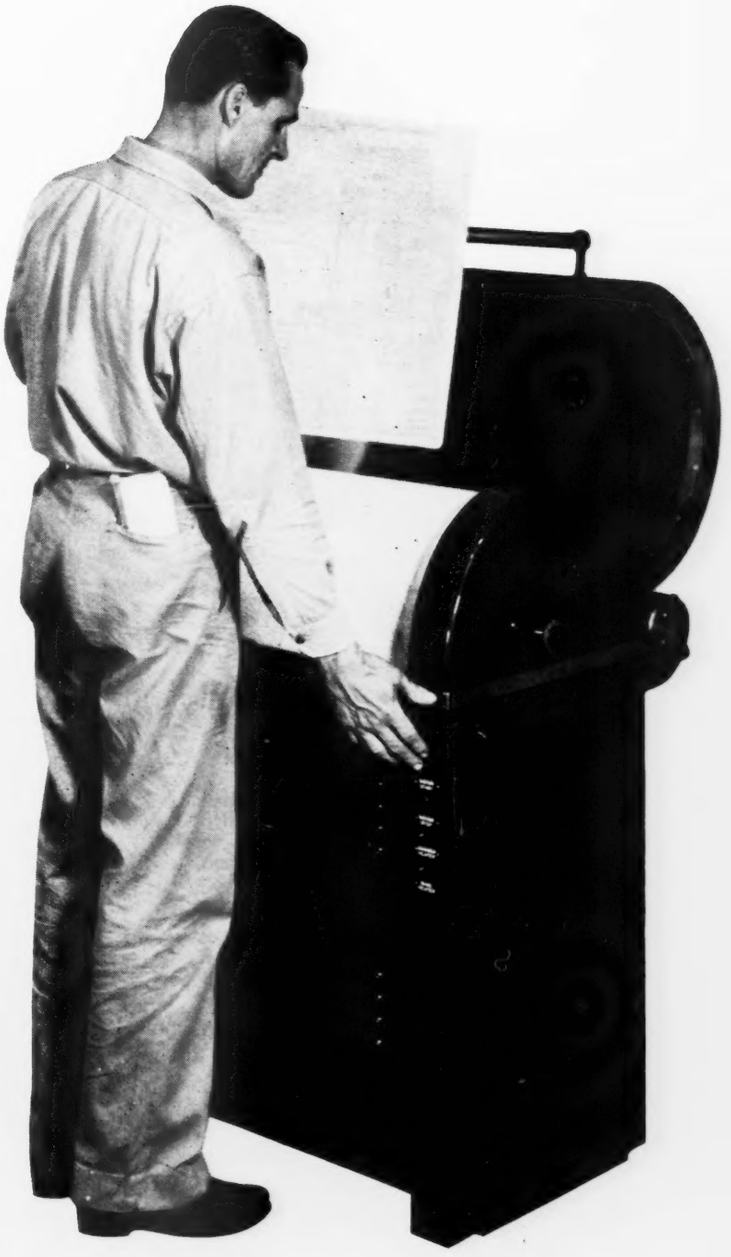
The man pictured here is not pulling a rabbit out of a hat—but he is a magician of a fashion.

He is about to push a button starting the motor and vacuum pump unit on a Sta-Hi Master Former and place a dry mat in this entirely automatic machine.

In a matter of a minute or two the mat will be shrunk to desired size, formed to casting curvature and electrically baked *on both sides*—ready to go into the casting unit to make *better plates for better printing.*

The operator does not have to "baby sit" to watch the mat being processed. He can busy himself with other duties, saving valuable time, speeding up production.

Yes, it will seem like magic when you first watch a Master Former in operation. . . Let us tell you where you may see an installation in your vicinity.



STA-HI

STA-HI CORPORATION • 1020 CROCKER ST. • LOS ANGELES 21

IT'S CONTROL

THAT DOES IT IN ROLLERS TOO

ORDER Winter Composition Rollers NOW

AMERICAN ROLLERS, that is. They're rigidly controlled right down the groove from raw materials to finished roller. Relentless factory control . . . strictest manufacturing regulations . . . in the selection of ingredients . . . in processing . . . in finishing . . . in final conditioning. Control that eliminates all guesswork and exerts genuine "know-how" plus the finest modern and scientific equipment known in the roller making industry. Yes, Sir! There's championship calibre built into these rollers. That's why they "shut out" disappointments and poor quality. Control gives them stand-out ability to go the route with a top-notch performance on every job. No wonder they win high praise from printers and lithographers everywhere. You, too, will like them. Order a set and see.

American Rollers

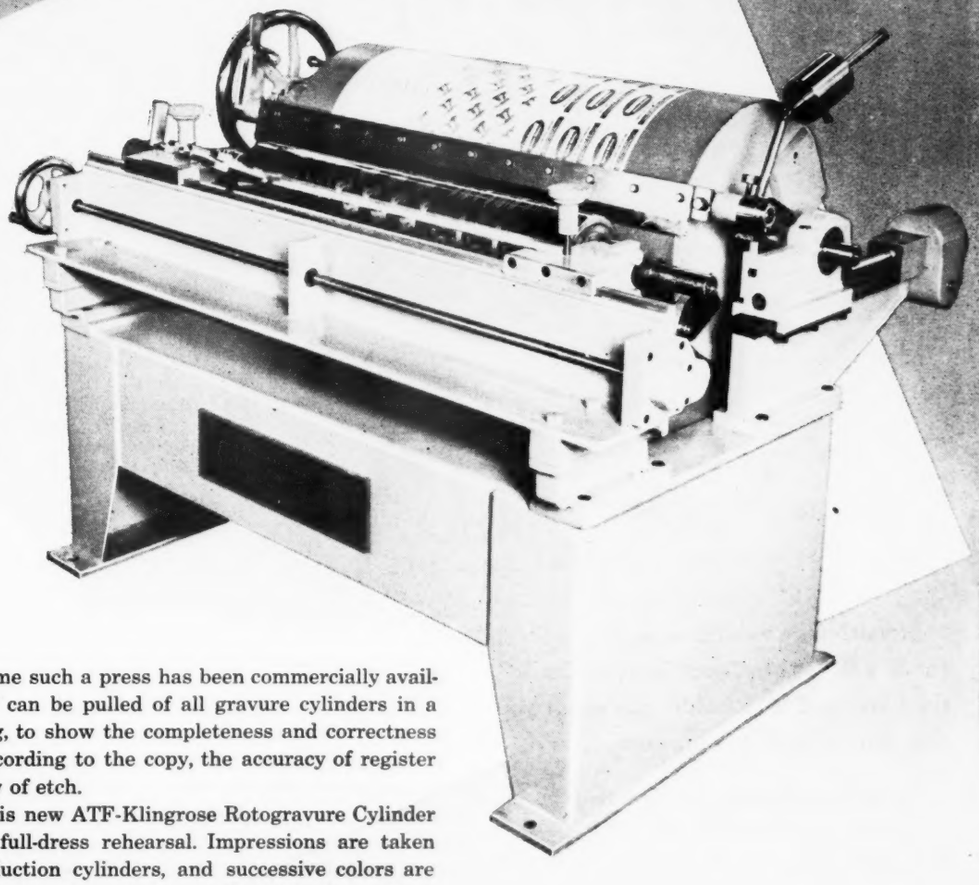
MANUFACTURERS OF
ALL-SYNTHETIC
RUBBER ROLLERS
COMPOSITION ROLLERS
LITHOGRAPH ROLLERS
MAKE READY PASTE
PADDING GLUE

AMERICAN ROLLER COMPANY
1342 NORTH HALSTED ST CHICAGO 22, ILL.
225 N. NEW JERSEY ST. INDIANAPOLIS 4, IND.

NEW

ATF-KLINGROSE
Rotogravure Cylinder
PROOF PRESS

Quick, accurate proofing ... in single and multiple colors



This is the first time such a press has been commercially available. Now a proof can be pulled of all gravure cylinders in a set before printing, to show the completeness and correctness of all elements according to the copy, the accuracy of register and the uniformity of etch.

Proofing on this new ATF-Klingrose Rotogravure Cylinder Proof Press is a full-dress rehearsal. Impressions are taken directly from production cylinders, and successive colors are laid over each other exactly as in the finished job. Corrections then can be made while the cylinder is still in copper, eliminating the dangers of de-chroming and time and expense of repeated shipping.

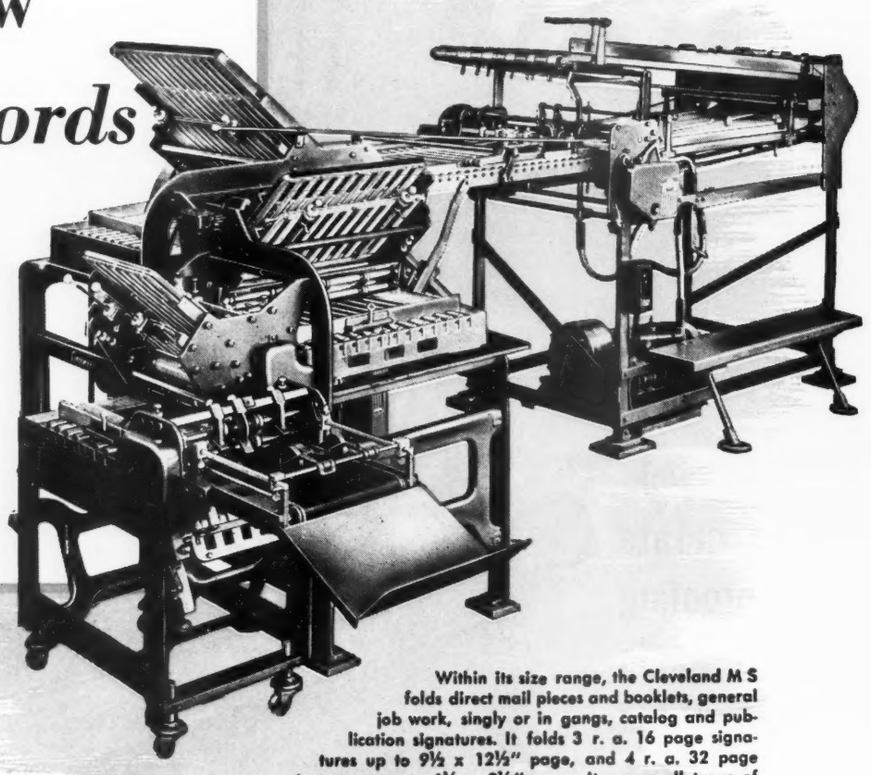
Compact, precision-built, capable of finest adjustments, this proof press is available in three standard sizes for maximum cylinder widths 40″, 60″ and 80″. Each press will handle cylinder circumferences from 15″ to 44″.

For complete information, write to

AMERICAN TYPE FOUNDERS ***Klingrose Gravure Division***

200 Elmora Avenue, Elizabeth B, New Jersey

Setting New *Speed Records* and New Profit Margins



Within its size range, the Cleveland M S folds direct mail pieces and booklets, general job work, singly or in gangs, catalog and publication signatures. It folds 3 r. a. 16 page signatures up to 9½ x 12½" page, and 4 r. a. 32 page signatures up to 6¼ x 9½" page. It serves all types of printing plants requiring 25 x 38" sheet.

for Volume Folding from
Flat Bed, Cylinder and Offset Presses

If you have a volume of folding in sheets 25 x 38" (or 38 x 50" to be slit on press for 25 x 38" folding), the Cleveland M S Folder can speed your production and cut your folding costs.

Occupying considerably less floor space than any comparable folder and handling sheets as large as 25 x 38"—or as small as 5 x 7", this new Cleveland machine delivers at up to 3900 inches (325 feet) per minute.

This faster production insures a larger profit per job so that, if operated a reasonable percentage of time, the Cleveland M S usually pays for itself in a few months.

RUGGED and MODERN TO THE LAST DETAIL

Like its famous fellow Clevelands, the M S has proved itself under the most exacting bindery conditions. Extensive use of needle, ball and roller bearings reduces friction, saves power and keeps upkeep costs down.

The M S is one of seven Cleveland folders, one or more of which will handle your bindery jobs with dispatch and sound economy of labor. Write for information on these and other Dexter and Christensen Machines which are serving printers and binders so well.

Dexter and Christensen Machines

Sold and serviced by

Dexter Folder Company • General Sales Offices, 330 West 42nd Street, New York 18, N. Y.

SALES REPRESENTATIVES: Chicago, Philadelphia, Boston, Cleveland, Washington, St. Louis

AGENTS: Dallas, Denver, San Francisco, Los Angeles, Seattle, Toronto, Montreal, Winnipeg . . . and in Foreign Countries

Christensen Machines are built by Christensen Machine Company at Racine, Wis.

PRINTING EQUIPMENT *Engineer*

A TECHNICAL MAGAZINE

AUGUST
1949

Volume 78 Number 5

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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How to Prepare ART and COPY for Offset Lithography

by William J. Stevens
and John A. McKinven

Newest book on copy preparation with foreword by John J. Deviny, U.S. Public Printer. Over 125 illustrations. Reproduced in 2 and 3 color lithography. Four color process on Kromekote. Contains design, photography, retouching, type proofs, "paste-ups", etc. Page size 8½"x11". Cloth lithographed cover

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SCOTT

SUBSTRUCTURE

- The SCOTT substructure is not merely a few frail looking stilts on which the press is erected.
- Instead it is a complete framework of substantial columns with wide base lines properly braced longitudinally and transversely and capped by heavy top rails also cross-connected, to provide a substantial foundation on which are laid the Base Plates of the Units and Folders.
- The substructure, being entirely independent of the press, need never be traded out when the time comes to change the presses, and the presses removed are also complete with bed plates so they can be erected on another foundation, either concrete or another substructure. This makes for future economy.

WALTER SCOTT & CO., INC.

PLAINFIELD, N. J.

LUDLOW *Typefaces*

FOR DISTINCTIVE WORK

Radiant Bold

A most versatile Ludlow typeface, and one which emphasizes a new trend in modern type display, combining brilliance and originality with style and simplicity. Available in five useful series.

Karnak Medium

Correctly designed, Karnak combines dignity with emphasis, and distinction with power. Widely used for advertising display, heads and commercial composition. Available in nine different series.

Tempo Heavy Condensed Italic

Ludlow Tempos have already made their own place as typefaces of general appeal and permanent value. They now comprise fourteen attractive series, meeting all possible requirements for a sans serif letter, and are equally effective for advertising display or commercial printing.

Hauser Script

A freely hand-drawn letter in the "brush-stroke" style, Hauser Script is most informal, yet forceful. In display it commands attention, and appeals to particular typographers, art directors and others.

Coronet Bold

A truly regal script, which lends color and variety to nearly any kind of composition. It is increasingly popular among commercial and publication printers, advertising typographers, etc. Made in lightface and bold.

LUDLOW TYPOGRAPH COMPANY 2032 Clybourn Avenue, Chicago 14, Illinois

have *You* seen the ROSBACK "Twenty-Two"?

• Until you have witnessed a working demonstration of the Rosback "Twenty-Two" you can never fully appreciate just how efficient and easy to operate such a perforator can be.

On small jobs and short runs it's actually cheaper to perforate with the "Twenty-Two" than to waste time fussing with makeshifts such as perforating rule. You not only save time and cost plus the risk of cutting up your form rollers but you do a real, professional job of perforating of which anyone can well be proud. And of course on larger jobs and longer runs your time savings and cost savings increase in proportion.

The "Twenty-Two" takes a full 22″ sheet, does finest quality slot perforating both continuous and strike. At small additional expense it can also be equipped to do snap-out perforating, or slitting, scoring or creasing.

Your Rosback Dealer will be glad to supply full details about the "Twenty-Two", perhaps arrange an opportunity for you to examine this new, lost cost rotary perforator and operate it yourself. Or write us for bulletin, specifications and price.

F. P. ROSBACK COMPANY • Benton Harbor, Mich.

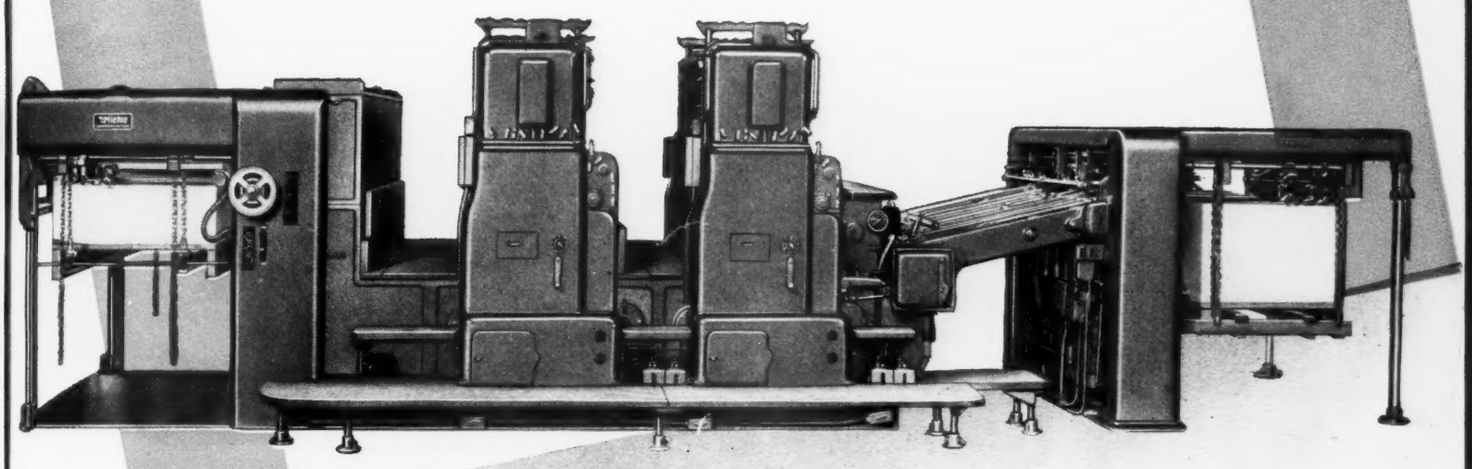
World's Largest Manufacturers of Perforators, Gang Stitchers and Paper Punching and Drilling Machines

Miehle Puts BA* in Your Pressroom

*COLOR AREA IS BA

52"x76"

42"x58"



The Miehle 76 Offset Press will handle a maximum sheet 52 by 76 inches . . . a sheet which has an area almost 62 per cent greater than that of a 42 by 58 inch sheet. Here is BA* — (Bonus Area) which will bring you extra profit.

With every impression of a Miehle 76 Offset Press you can print the equivalent of more than one and a half 42" x 58" sheets or two 38" x 50" sheets at speeds up to 6000 sheets per hour in single or multi-color.

Here is truly high production. Let the Miehle representative discuss the profit possibilities of BA* with you.

Miehle Offset Presses are made in two sizes one to four colors.

	MAXIMUM SHEET	MINIMUM SHEET	SPEEDS UP TO
61	42"x 58"	22"x 34"	6500 IPH
76	52"x 76"	28"x 42"	6000 IPH

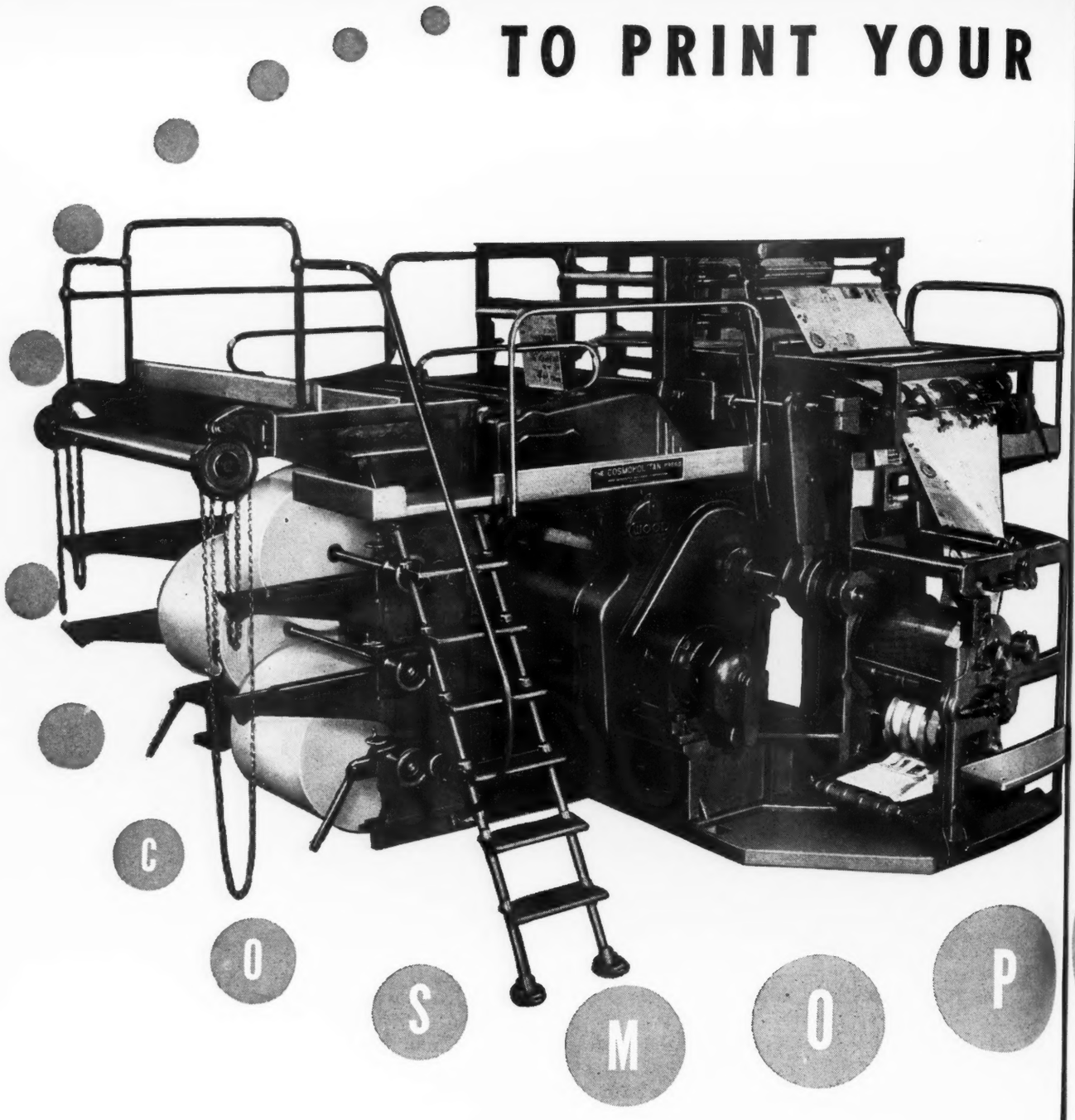
*BONUS AREA

THE MIEHLE PRINTING PRESS AND MANUFACTURING COMPANY

BUILDERS OF OFFSET PRESSES FOR A QUARTER OF A CENTURY

CHICAGO 8, ILLINOIS

TO PRINT YOUR



THE WOOD COSMOPOLITAN PRESS, is a full-size versatile newspaper printing machine, especially designed to print the smaller-city paper. Its folder cuts and delivers standard size newspapers folded to half page size, or tabloid papers folded to full page size. The press illustrated can deliver standard size products up to 24 pages; or tabloid size products up to 48 pages, counted in lots of 25 or 50.

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION
PLAINFIELD, NEW JERSEY • SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

SMALLER-CITY NEWSPAPER

FASTER... MORE ECONOMICALLY...

INVESTIGATE THE COSMOPOLITAN PRESS!

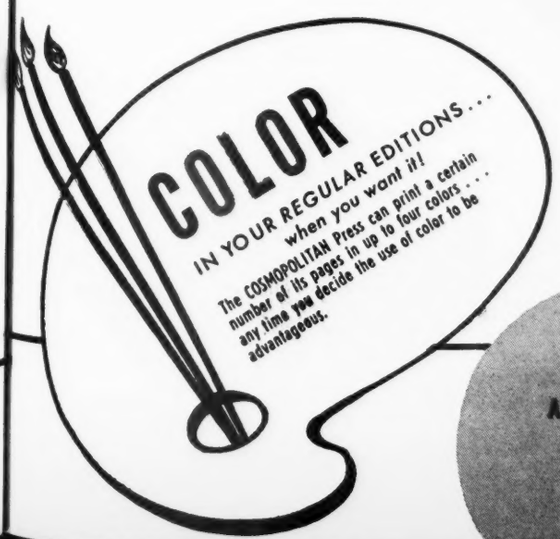
With the installation of The COSMOPOLITAN PRESS, you can adopt standard, economical production practices heretofore available only to large metropolitan plants.

- Printing from semi-cylindrical, standard size stereotype plates
- Producing a variety of pages and sections
- Using color in regular editions when desired
- Allowing unusual flexibility in number of pages used
- Providing for growth in circulation and number of pages

. . . and many other major production and maintenance refinements!

Installation is a relatively simple procedure. The COSMOPOLITAN Press is erected on its own bedplate for easy installation on any flat, solid floor. Everything required to produce papers is furnished with the press. Nothing more is needed than plates, ink and paper before it is ready to produce!

THE INTRASERTOR—An integral part of The COSMOPOLITAN Press. It "intraserts" a 2-page sheet in one section of a two-part paper when desired. This permits increasing a regular size newspaper by 2 pages and a tabloid size paper by 4 pages, even when running collect. Collect products may now be had with one section containing 2 pages more than the other section.


COLOR
IN YOUR REGULAR EDITIONS . . .
when you want it!
The COSMOPOLITAN Press can print a certain number of its pages in up to four colors . . . any time you decide the use of color to be advantageous.

AN INFORMATIVE BROCHURE ABOUT THE COSMOPOLITAN PRESS IS YOURS FOR THE ASKING

COMPARE!

for CLEANER IMPRESSIONS with less wear

IT'S TINGUE

TRADE MARK

PRINTING PRESS BLANKETS

TINGUE DRAWSHEETS

TOP

This drawsheet is firm, durable, economical and long-lived.

IMPROVED SATISFACTION

Coated with "Calvaprene" by du Pont, on a fabric which has been impregnated with "Neoprene".

GOLD TYMPAN CLOTH

An old favorite for flatbed presses. Skivered metallic surface accepts excess ink and flakes it off without smudging.

TINGUE COATED BLANKETS

TINGUE FELT

Available in your guage and size with synthetic rubber coating.

COMBINO

A synthetic, laminated top blanket, extremely durable and a clean printer.

TINGUE UNDERBLANKETS

FOUNDATION BLANKET

A firm durable oilproof underpacking laminated by du Pont with "Neoprene" for use in combination with "Cushion Cork" and Tingue Drawsheets or Felt.

CUSHION CORK BLANKETS*

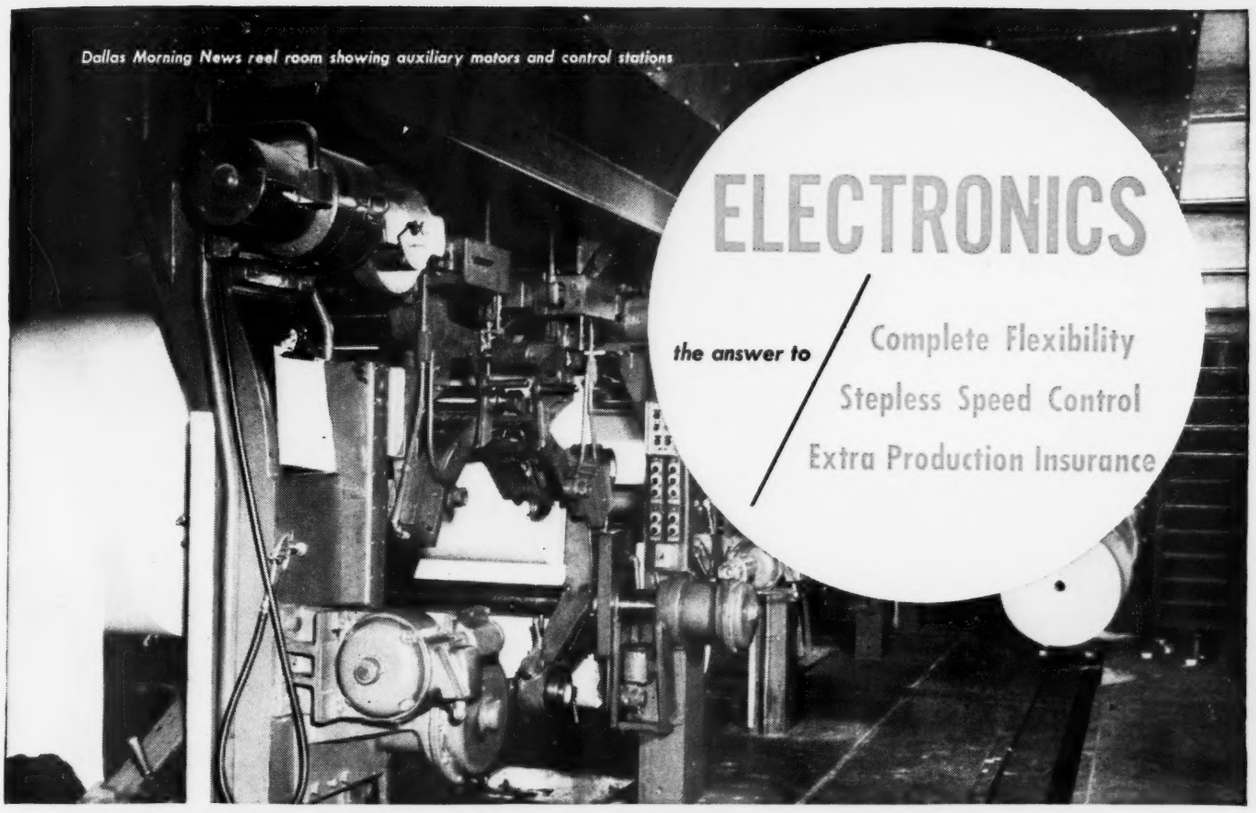
Highly resilient and recommended as the underpacking for "Combino" and Tingue Coated Felt or in combination with Foundation Blanket where a drawsheet is used.

*Reg. U.S. Pat. Office

TINGUE BROWN AND COMPANY

114-120 EAST 23rd STREET, NEW YORK 10, N Y
1227 WABASH AVENUE, CHICAGO 5, ILLINOIS
723 E WASHINGTON BLVD, LOS ANGELES 21, CAL
507 BISHOP STREET, N W, ATLANTA, GEORGIA

CANADIAN SALES AGENTS
ROSS WHITEHEAD & CO., LTD.
MONTREAL, CANADA

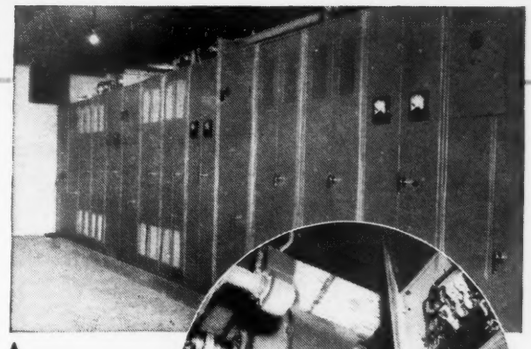


Dallas Morning News reel room showing auxiliary motors and control stations

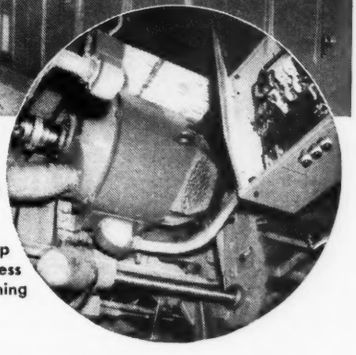
ELECTRONICS

the answer to

Complete Flexibility
Stepless Speed Control
Extra Production Insurance



G-E electronic press drive control at Dallas Morning News



One of twenty 40-hp motors driving new press line at Dallas Morning News

Here's what another well-known newspaper production man—Leven Deputy, Mechanical Superintendent, The Dallas Morning News—says about the General Electric electronic press drive, installed for the first time in the Southwest by the Dallas Morning News:

"We believe in the idea of complete flexibility of press combinations, stepless speed control, and inherent standby capacity for extra production insurance. Because we believe electronic press drive can answer these expectations, when we planned our new printing plant, we ordered General Electric electronic press drive equipment."

The magic of electronics, successful in hundreds of other applications, has now proved itself a worthy partner in the printing industry. Through the ignitron rectifier tube, incoming a-c power is converted to d-c power for accurate and complete press control. Power costs are slashed. The entire installation is compact; easy to operate, easy to maintain. Get the details now!

YOU CAN PUT YOUR CONFIDENCE IN GENERAL ELECTRIC

General Electric can co-ordinate all your electric equipment—from glue pots to press drives—to fit your individual requirements. Why not take advantage of experienced G-E application engineering. Just outline your needs to a G-E Printing Specialist in our nearest sales office and let him help you with your printing problems.

General Electric Company, Section G653-3
Apparatus Department, Schenectady 5, N. Y.

Please send me a copy of your bulletin GEA-4670 which describes the electronic press drives and control.

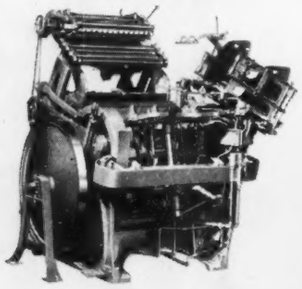
Name.....

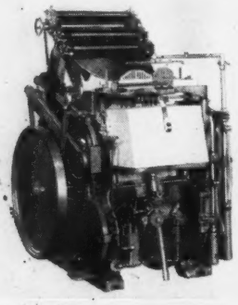
Address.....

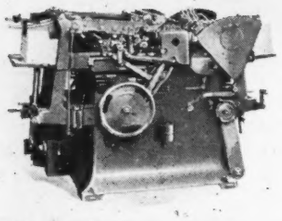
City..... State.....

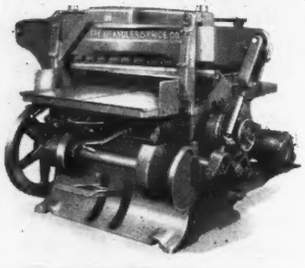
GENERAL ELECTRIC

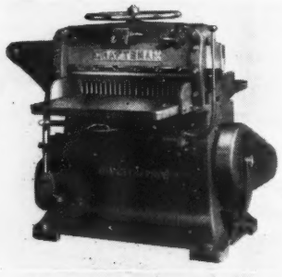
Protect Your Profits with Chandler & Price Equipment

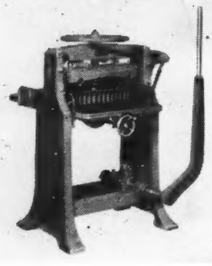












CHANDLER & PRICE

CRAFTSMAN AUTOMATIC

"The most profitable job press investment any printer can make"

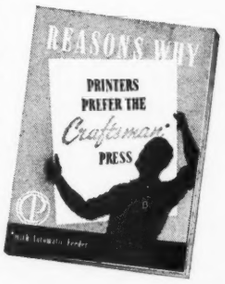
WITH the Chandler & Price Craftsman Automatic Press, impression adjustments are a simple matter of a few turns on a hand-wheel, cutting down makeready time from 20 to 40%. An exclusive C & P feature.

This is only one of many modern features that are the result of more than 60 years of C & P experience in building over 100,000 job printing presses—features that reduce idle press time. Craftsman Automatic units, designed to provide impressional strength for the higher speeds and the most exacting demands of present-day printing, have a one-piece, heavy, cast base that adds years to the life and accuracy of these presses by providing a solid foundation for all working parts.

Automatic features include: Automatic feeder that handles 14½" pile of stock, from onion skin to 12-ply cardboard, including irregular shapes such as folding paper boxes and cut-out novelties; automatic joggers both at back and sides of the delivery pile that help to cut down later rehandling of printed sheets; automatic throw-off of press if sheet fails to deliver.

Maximum operating speed of the 10 x 15" unit is 3500 impressions per hour; the 12 x 18" unit 3000 i.p.h., with daily production records on average work of 2000 to 2500 i.p.h. not at all uncommon.

Write for catalog which explains why so many printers have said C & P Craftsman Automatic presses are the most profitable job press investment any printer can make.



THE CHANDLER & PRICE COMPANY
CLEVELAND, OHIO

MANUFACTURERS OF PRINTING MACHINERY FOR OVER 60 YEARS

Keeping in Touch

IPI, Holdfast, and Gemtone are trade-marks of Interchemical Corporation

IPI • DIVISION OF INTERCHEMICAL CORPORATION • 350 FIFTH AVE., N. Y. 1. • ADDRESS INQUIRIES DEPT. A

NEW SERIES OF FAMOUS IPI HOLDFAST HALFTONE BLACKS OFFERS IMPROVED RESISTANCE TO SCRATCHING, SMUDGING; BETTER DRYING IN THE PILE; AND CLEAN, SHARP PRINTING

FILMY VEILS, fine laces, and delicate tiaras present a tough halftone printing problem. The Williams Printing Company, Chicago, who printed a catalogue full of such halftones for the Chicago Bead Works, solved the problem with an IPI Holdfast Halftone Black and blue. Reduced picture, above, doesn't do justice to original book. Ask your IPI Representative to show you his copy of "Veils for the Bride," with 31 halftones.

"They're better than ever," say printers about the latest series of IPI Holdfast Halftone Blacks.

Many of these printers have been using Holdfast Halftone Blacks since they were introduced in the first edition of the IPI Color Guide. Enthusiastically as Holdfast Halftone Blacks were received then, we have improved them ever since.

The improvements embodied in our new series include better scratch-resistance and smudge-resistance, and more positive drying in the pile. They work easily on the press, have excellent fountain flow and mobility, and are made to meet varying commercial printing conditions. The inks print as well under modern speed conditions as conventional linseed oil halftone blacks.

Why don't you try them?

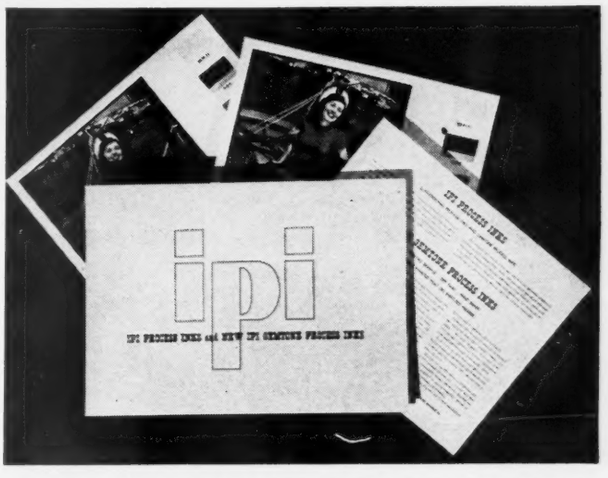
HAS UNDERPRINTING CAUGHT UP WITH YOU?

Newspapers are looking into underprinting with colored inks as a means of using white space to carry both news and advertising.

We are informed that this idea was used for the first time in this country last December when Delta Air Lines ran an underprinted advertisement in the Atlanta (Ga.) Constitution. The trick was in the formulation of the ink—an IPI blue correctly balanced for color, transparency, and working qualities. Burke Dowling Adams, Montclair, N. J., advertising agency, developed idea for Delta.

TIME OUT FOR A CHUCKLE

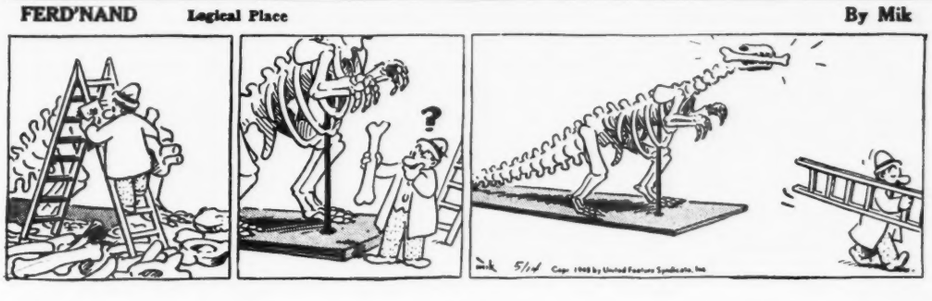
We love to sell printing ink but we also think it's good business to pause occasionally for a little rib tickling. So saying, we introduce to you a humorously frustrated little fellow called "Ferd'nand" who, faced with problems even as you and I, solves them in unique, entertaining ways.



NOW YOU CAN COMPARE GEMTONE INKS WITH CONVENTIONAL IPI PROCESS INKS

If you do any four-color process printing at all, you will be interested in our new process inks comparison folder. It contains specimens of printing done with conventional IPI process inks and IPI Gemtone Process Inks—printed from the same plates.

The Gemtone specimens weren't babied either. Matter of fact, the conventional process colors used are generally satisfactory. We still sell a lot of them. However, where a high "sparkling" finish and fast drying are desired, our Gemtone Inks offer unusual advantages. Write for a free IPI process ink comparison folder on your letterhead.



Business Manager David W. Mack, Tribune-Review Publishing Co., Greensburg, Pa.

Gas-fired casting pot and pig melter

Four of the six Linotype machines, equipped with Gas-fired pots

MODERN PUBLISHERS, who cope with rising costs by adopting streamlined production methods, depend on economical and efficient GAS for in-the-line heat processing. Throughout the graphic arts, GAS fulfills those essential tasks which assure profitable operation, whether in newspaper publishing, job printing, book binding or periodicals.

Typical example of all-'round GAS usage is the modern plant of the Tribune-Review Publishing Company, Greensburg, Pennsylvania. With morning and evening newspapers, this publisher demands real service from these modern Gas-fired units:

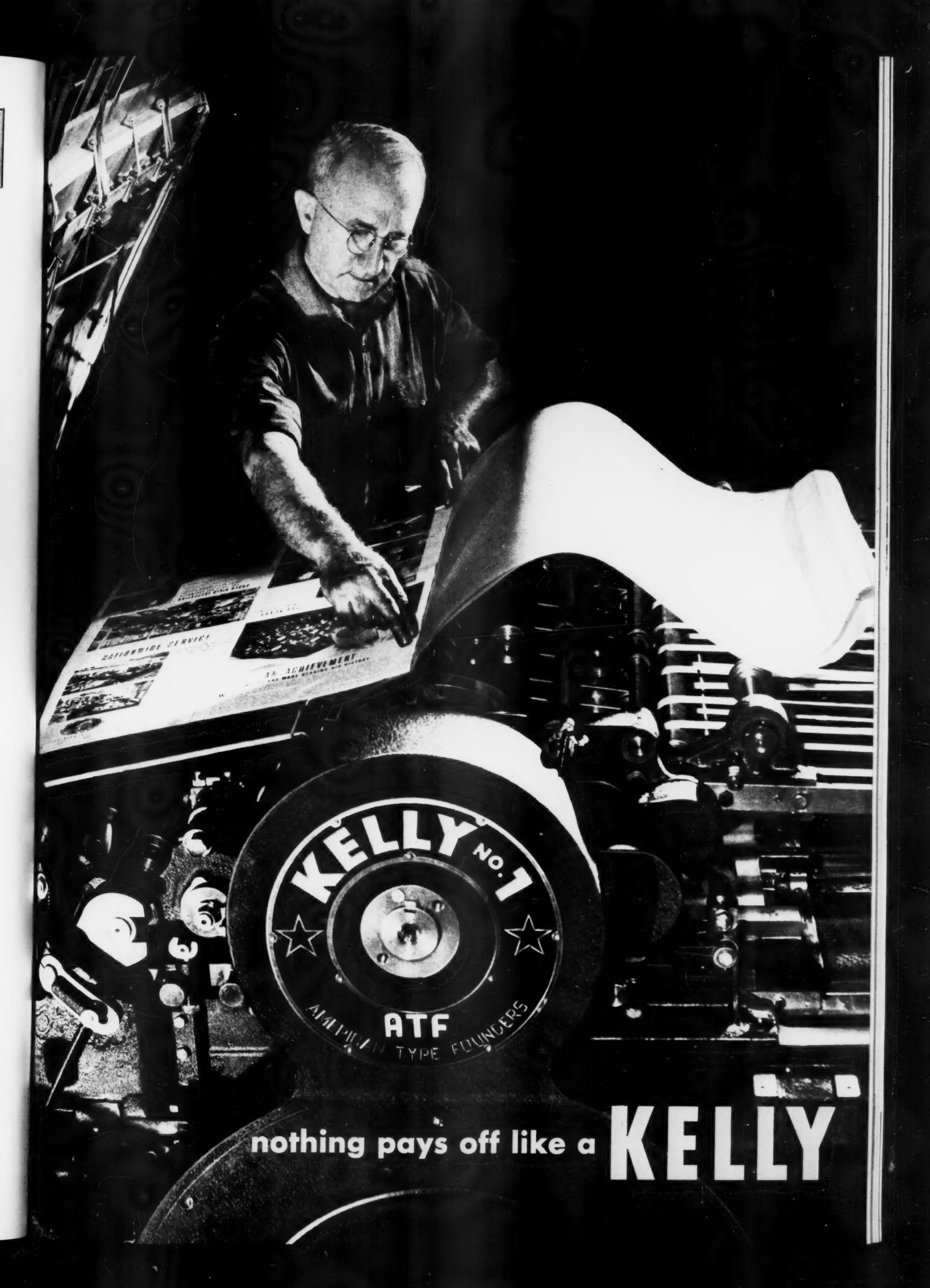
- Six Linotypes
- Two Ludlows
- One Elrod
- One Flat Caster
- One Pig Pot
- One Mat Scorcher
- One Stereotype Caster

Business Manager Dave W. Mack says, "We use GAS for all our heating operations because we've found it dependable, fast, and economical. Our maintenance and cleaning costs are kept at a minimum by the simple equipment and clean fuel."

For publishers with eyes on the headlines, and mechanical superintendents with hands in the production of those headlines, GAS is the ideal fuel for shop streamlining. Your local Gas Company will help you get the most out of your fuel by effective utilization in modern Gas Equipment.

AMERICAN GAS ASSOCIATION
420 LEXINGTON AVENUE, NEW YORK 17, N.Y.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

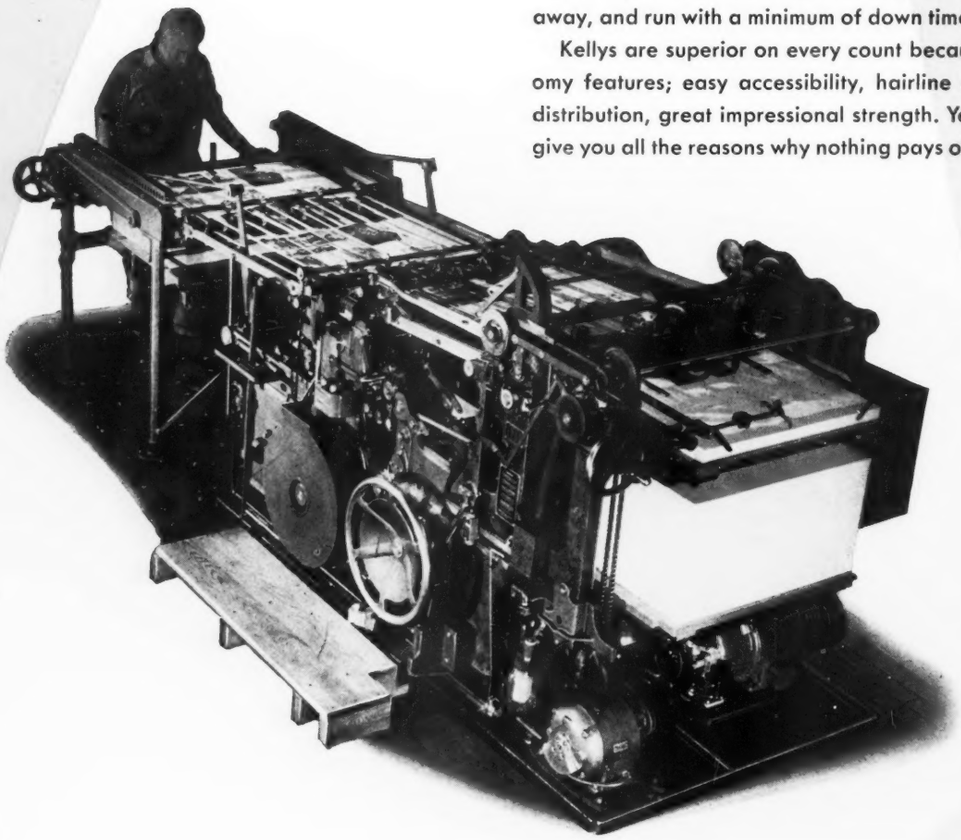

KELLY NO. 1
ATF
AMERICAN TYPE FOUNDERS
nothing pays off like a KELLY

nothing pays off like a KELLY

...in production
...in profits

Kelly presses are unexcelled as quantity producers. They turn out the greatest number of salable impressions. They handle all qualities, including the finest process color work; all size sheets up to 24 x 35; all papers from onionskin to 6-ply card. And Kellys are unequalled as profit producers because of their low cost of operation and long life. They are easy to make ready, quick to get away, and run with a minimum of down time.

Kellys are superior on every count because the Kelly is packed with economy features; easy accessibility, hairline register, the famous pyramid ink distribution, great impressional strength. Your ATF Representative gladly will give you all the reasons why nothing pays off like a Kelly.



NO. 2 KELLY
Sheet-sizes from
8½x11 to 24x35

NO. 1 KELLY
Sheet-sizes from
8½x11 to 22x28

STYLE C KELLY
Sheet-sizes from
7x10 to 17½x22½

American Type Founders

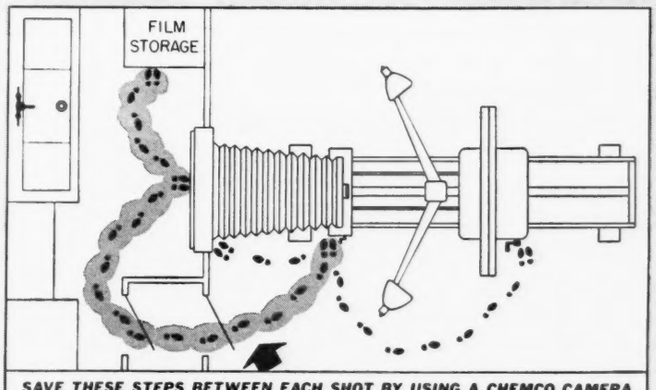
200 Elmora Avenue, Elizabeth B, New Jersey

Branches in Principal Cities

Manufacturers of: Kelly Presses, Little Giant Presses, Chief Offset Presses, Web Offset Presses, Gravure Presses, Foundry Type and Process Cameras.

Distributors of: Vandercook Proof Presses, Composing Room, Pressroom and Bindery Equipment.

Footsteps cost Money . . .



SAVE THESE STEPS BETWEEN EACH SHOT BY USING A CHEMCO CAMERA

SAVE TIME . . .
SAVE EFFORT . . .

USE CHEMCO CAMERAS FOR PRECISION NEGATIVE WORK

Why overburden available manpower with unnecessary physical effort? With a Chemco camera the operator works between copy board, lens board and near-by controls until a series of shots are completed. He enters the darkroom only when one or more exposures are made since each negative has been deposited in a light tight box, easily accessible from the darkroom. When desired, a second man may be handling the darkroom work at the same time that the operator is making additional shots . . . the darkroom side of all Chemco cameras is light tight so that even with a strong light in the darkroom, shooting is not delayed. With a Chemco, the operator saves an average of 30 steps per exposure . . . he is not required to enter the darkroom to load and unload film from the camera.

A simple roll film cut-off device separates the actual piece of film being used from the roll of film located within the top of the camera case. These features mean less fatigue for the operator . . . a possibility for more shots per day with less effort.

Two screens may be housed within the camera . . . either may be instantaneously positioned by means of a simple turn of the screen control handle. Both screens may be removed for line shots by returning screens to "storage position."

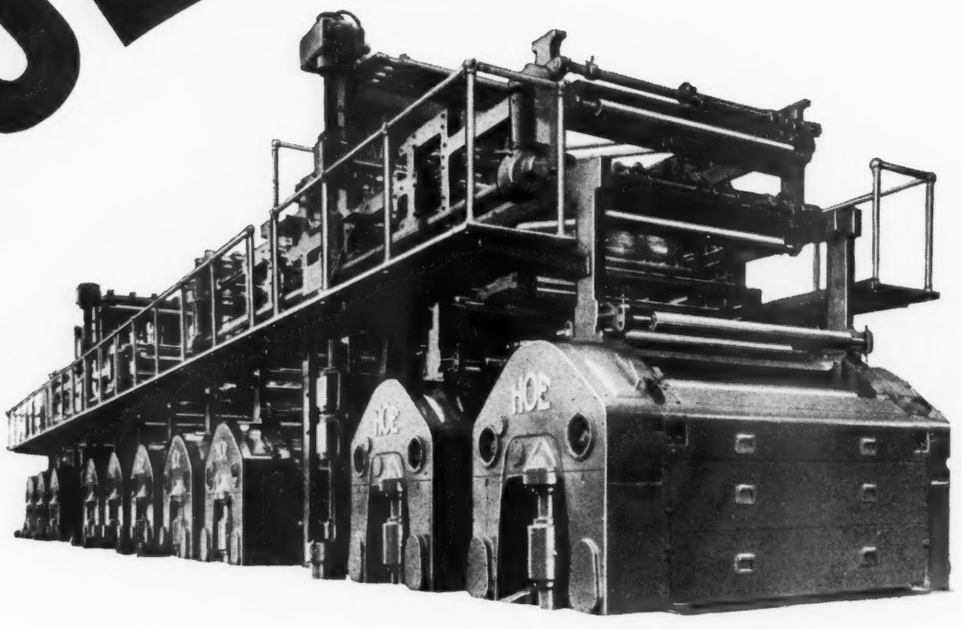
Take two minutes of your time and write for complete details on how you can save both time and effort through installation of a Chemco camera.

CHEMCO PHOTOPRODUCTS COMPANY, INC.

Factory and General Offices, Glen Cove, N.Y.

Branches: New York, Chicago, Detroit, New Orleans, Boston, Atlanta, Dallas

COLOR *means more sales*



for the advertiser...
more advertising for the publisher

Color so definitely increases the effectiveness of newspaper advertisements that more and more advertisers are using color in newspapers which are equipped to provide it. Naturally the newspaper with ample ROP color facilities attracts more advertising.

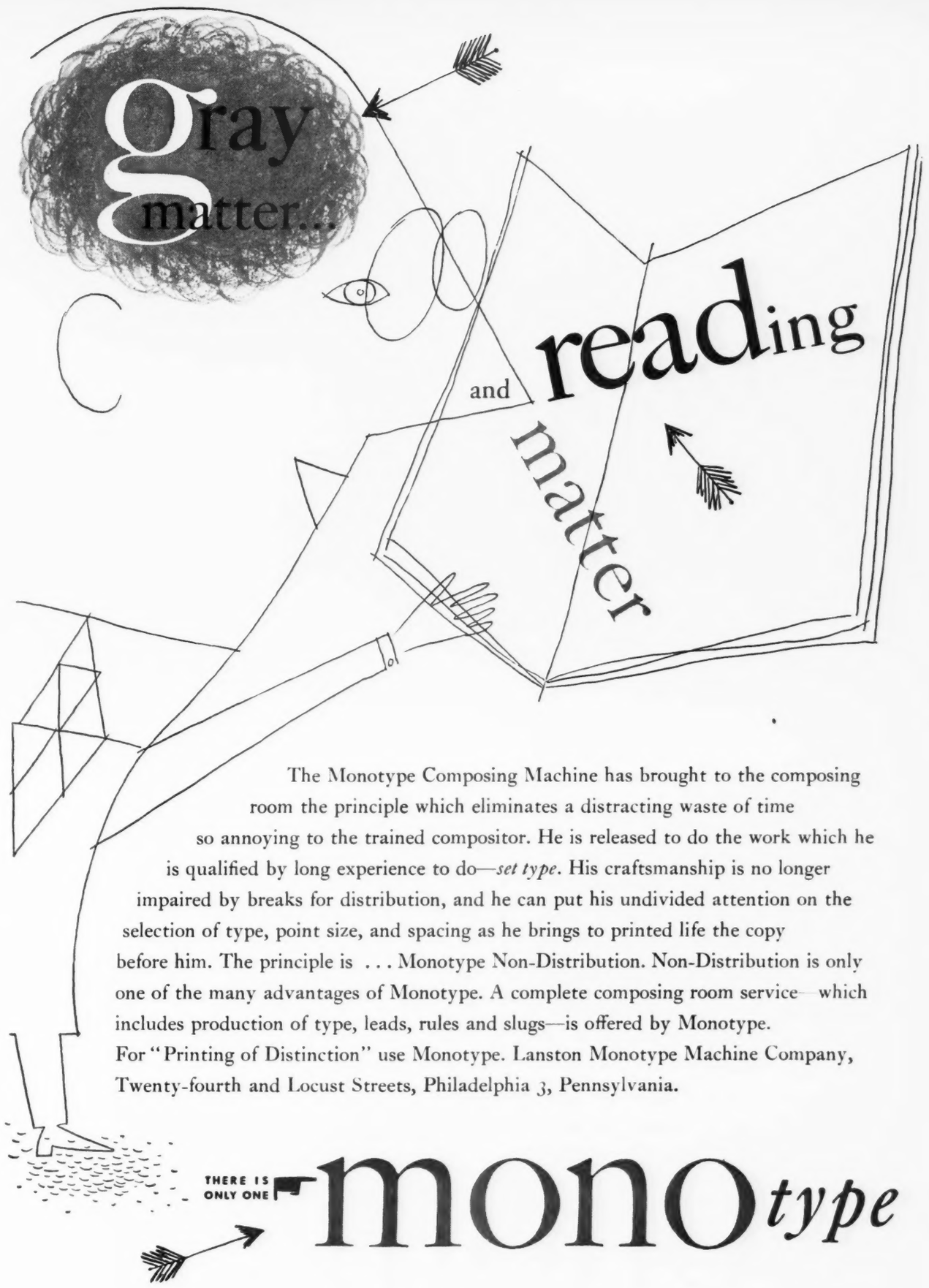
This is one of the major reasons so many of America's great newspapers are installing Hoe Color-Convertible Newspaper Presses.

Designed for maximum color flexibility, the new Hoe Color-Convertible Press not only will provide whatever color is initially required, but is so constructed that further color facilities can readily be added as they are needed.

R. HOE & CO., INC.

910 East 138th Street, New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO



The Monotype Composing Machine has brought to the composing room the principle which eliminates a distracting waste of time so annoying to the trained compositor. He is released to do the work which he is qualified by long experience to do—*set type*. His craftsmanship is no longer impaired by breaks for distribution, and he can put his undivided attention on the selection of type, point size, and spacing as he brings to printed life the copy before him. The principle is . . . Monotype Non-Distribution. Non-Distribution is only one of the many advantages of Monotype. A complete composing room service—which includes production of type, leads, rules and slugs—is offered by Monotype.
For "Printing of Distinction" use Monotype. Lanston Monotype Machine Company, Twenty-fourth and Locust Streets, Philadelphia 3, Pennsylvania.

THERE IS ONLY ONE **monotype**

A NOTE ABOUT THE TYPE—THE ABOVE TEXT IS SET IN 11 PT. CASLON—337 MONOTYPE WITH 6 PT. LINE SPACING

BETTER
FASTER
MORE PROFITABLE PRINTING
5 COLORS PRINTED DRY 5 SECONDS

Five colors in five seconds! That's the speed of Champlain rotogravure with roll rewind. But speed isn't all...you'll get quality and economy extras too. Here's what a heavy volume match book cover printer says about his Champlain press: ". . . impressed with the relative ease of setting up this equipment . . . no question we are producing a much better product . . . been operating in excess of 500 ft. per minute, planning to step up to 600 . . ." From a leading printer of cellophane: ". . . speeds as high as 400 ft. per minute . . . run right to the last 2 or 3 feet of cellophane on the core, a great waste saver . . ."

Other hard-to-print stocks—glassine, foil, pliofilm, board—are simple for rotogravure, are printed at extremely high speeds. Why not investigate the extensive possibilities of Champlain rotogravure?

Send samples of your production to us — let Champlain show you how to do the job—better, faster, more profitably.

"DEPEND ON THE LEADER"

CHAMPLAIN COMPANY, INC.

88 LLEWELLYN AVENUE, BLOOMFIELD, N. J.
Chicago Office: 7 W. Madison St., Chicago 2, Ill.

ROTOGRAVURE AT ITS BEST

Here are some advantages of CHAMPLAIN ROTOGRAVURE

EASY TO OPERATE
NO PRESS WASHUP
NO OFFSET — NO SMEAR
NO MAKEREADY
ROLL PAPER 7-12% CHEAPER

5179

Heart to Heart

My dear Friends:

The Printing Industries of Philadelphia, Inc., Bulletin #47, May 25th, 1949, says that "no general wage cuts will take place, and industry, in order to maintain volume on a declining market, will have to achieve some price reductions out of management-effected savings and increased productivity".

Really, that spells the many-purpose, may Profit BAUMFOLDER-true?

We did not, after V-E Day, embrace the opportunity of taking a big profit when there was such a demand for folders, but kept our prices practically pre-war (some models slightly less . . . some models slightly more). Other printing machines that may have been repriced close to double prewar can more readily absorb a modest cut today, but we are the unfortunate "unsung hero" who has already given thousands of firms the benefit of rock-bottom prices.

One week last month, fifty-five firms from the Atlantic to the Pacific ordered their Miracle Money-Maker BAUMFOLDER-the indispensable solver of today's price competition. Everywhere Printers and Bookbinders find it "indispensable." It invariably returns its cost many times over . . . long before you pay for it (on payment-out-of-earnings plan where you make but a small initial deposit) if used but a few hours a week. Honestly now, under these conditions, doesn't it cost you less than nothing to own it? And aren't you losing a small fortune by trying to compete without it?

Why are BAUMFOLDERS THE FASTEST SELLING FOLDERS IN AMERICA? Among the many reasons it is first in sales is because it is first in value (priced close to pre-war—so much less than the usual price of fine folders) and first in accuracy (perfection, no less) and first in versatility (no stock too thin nor too heavy and it folds, pastes, trims and folds again for mailing in one operation. It will perforate both directions at the same time and deliver sheets flat) and first in production (the fastest Folders ever built—feeds and folds faster than paper can stand—broken through the ceiling—the ultimate in production; therefore, the ultimate profit, making folding your most profitable operation) and first in sturdiness (precision-built of finest materials obtainable—the heaviest built, the strongest built Folders ever designed—truly life-time Folders) and first in quick-setting and ease of operation (timeless—almost self-operating . . . thousands, since V-E Day, have been uncrated and set up by users who had no previous operating experience).

Why do without it and lose—why not phone us collect or wire us to ship it and make it your "Gold-Mine for Forty-Nine"?

RUSSELL ERNEST BAUM INC.
615 Chestnut St.
Phila. 6, Pa.

Sizes
22 x 28 **14 x 20** **25 x 38** **17½ x 22½** **28 x 44**

P.S. June orders breaking all sales records. Factory working overtime (although every hour a "Baum" rolls off the assembly line) over fifty hours weekly. Don't delay . . . and be disappointed in delivery. Phone me personally collect—let's talk it over.

for the big job
...or the small

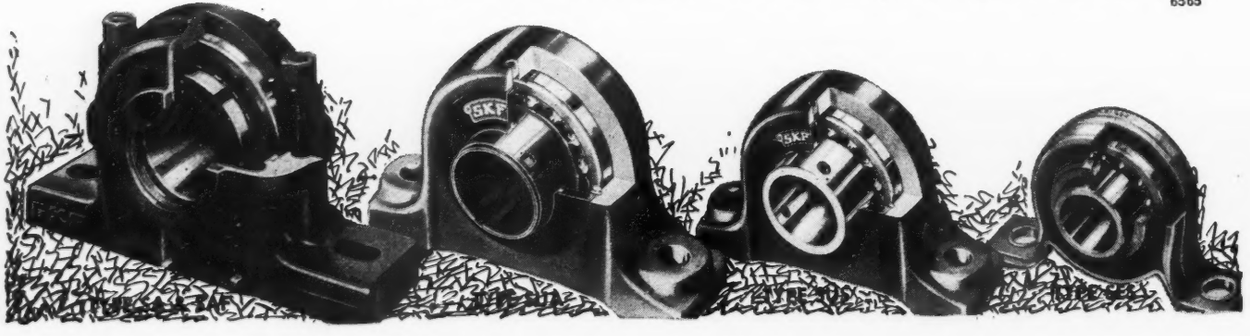
there's an SKF pillow block for every application

SKF Spherical Roller Bearing Pillow Blocks, in a wide range of standard sizes, are designed for bearing protection under various loads and speeds.

In industrial and marine equipment of all kinds, they keep SKF Bearings rolling smoothly, continuously and economically . . . seal the bearings against dust, scale and water . . . send maintenance costs 'way down.

To insure long trouble-free operation, specify SKF Bearings by ordering SKF Pillow Blocks to match. SKF Industries, Inc., Philadelphia 32, Pa.

6565



With Men Who Know the Metal Score BLATCHFORD Makes a Solid Hit

Blatchford Metals have long been favorites with the men who man, as well as with the men who meet the payrolls in composing rooms, foundries and printing plants the country over. Because it's in the shop that Blatchford shows the stuff it's made of—and with.

Good, clean metal—lead, tin and antimony—proved as best for the purpose by our laboratory people—that's what Blatchford is **made of.**

These top grade basic materials are alloyed in precisely the proper proportions to produce the metals in the Blatchford line—slug and strip casting, unit casting, stereotype and electro-backing metals.

The metal-mixing job is done with a back-log of experience unparalleled in this business—a know-how reaching back nearly a century. That's what Blatchford is **made with.**

Starting with first quality materials, following through with time-tested production methods, Blatchford enters the shop ready, willing and able to work hand-in-glove with men wise in the ways of metal performance—men quick to rate, and appreciate, meltability, castability, moldability and printability.

Blatchford's good behavior, with the heat and pressure on, is bound to make a hit with men who really "know the score" in metals.

NATIONAL LEAD COMPANY

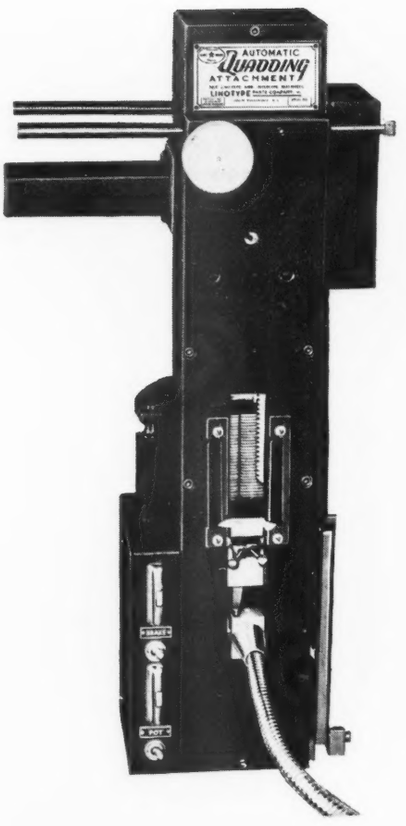
BALTIMORE • BUFFALO • CHICAGO • CINCINNATI
CLEVELAND • PITTSBURGH • ST. LOUIS

National Lead Co. of Mass., Boston • American Lead Corp., Indianapolis
E. W. Blatchford Co., New York • Atlanta: Georgia Lead Works (Div. of Cincinnati Branch) • Morris P. Kirk & Son, Inc. Los Angeles, Portland, Oakland, Salt Lake City

Blatchford Metals

HOW MUCH ARE YOU ACTUALLY LOSING...

BY BEING *WITHOUT* THIS AUTOMATIC QUADDING ATTACHMENT?



Read these extracts from users' letters:

"The Star Automatic Quadding Attachment has speeded up the production of my Intertype Machines. . . . The mechanism is faultless. . . . I am 100% satisfied with my purchase of the Star Quadder."

Saben Linotype Co.
Los Angeles, California

Benjamin Saben

"Your Quadder is working satisfactorily in our plant. . . . We have not had any squirts or jams since its installation. I can frankly say it is foolproof."

Newark Trade Linotypers
Newark, New Jersey

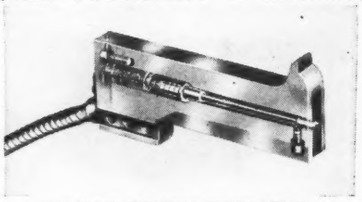
John Wislocky
Partner

●

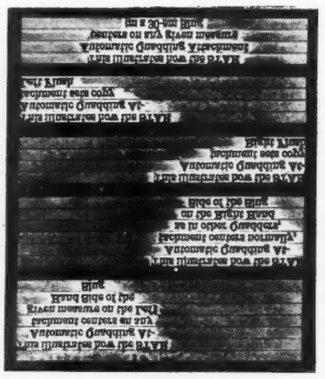
These opinions reflect what more and more users of the Star Quadder say about it. This quadder can be easily and quickly attached to *your present typesetting machines* without marring them or in any way lowering their subsequent resale value. With the Star Quadder in place, expect worthwhile time savings in matter to be spaced right, left or center — or centered automatically on the left side of the slug.*

**Exclusive feature of the STAR Quadder*

SQUIRT POSSIBILITY IS MINIMIZED



BY THIS ELECTRO PUMP STOP
(Patent Pending)



Composition 30 ems wide

This illustrates how the STAR Automatic Quadding Attachment centers on any given measure on the Left Hand Side of the Slug
This illustrates how the STAR Automatic Quadding Attachment centers normally, as in other Quadders, on the Right Hand Side of the Slug
This illustrates how the STAR Automatic Quadding Attachment sets copy Right Flush
This illustrates how the STAR Automatic Quadding Attachment sets copy Left Flush
This illustrates how the STAR Automatic Quadding Attachment centers on any given measure on a 30 em Slug

Repro. proof of form at left.

Right now is the best possible time for you to get complete information about the

STAR AUTOMATIC QUADDING ATTACHMENT

PRECISION
TRADE ★ MARK

LINOTYPE PARTS COMPANY

Factory and Main Office
SOUTH HACKENSACK, N. J.

INCORPORATED

Branch Office:
1327 BROADWAY, KANSAS CITY 6, MO.

CHICAGO • MINNEAPOLIS • DENVER • NEW YORK • BOSTON

Heat at the HEART of the Metal and Save 40% of Your Fuel . . .

Kemp heat is not outside, fighting its way through a heavy pot; but inside, passing rapidly through shells of thin metal.

A full 12-ton pot of metal, out of service for 48 hours, can be brought to 600° F. in less than 2 hours with Kemp Immersion Heating.

Moreover, dross formation is cut to a minimum (and costs to the bone) because Kemp Immersion Heating equipment by-passes spent gases to discharge over the melt, forming a layer of inert gases which prevents oxidation and dross formation.

Uniform temperature throughout the pot—as hot at the top as at the bottom—is the way to lick dross formation in type metal.

We can't tell you the whole story here . . . but any Kemp representative will be glad to. There is one not far from you . . . drop us a line if you are interested in saving up to 40% in type metal melting costs or send for the Kemp Bulletin No. IE-10 on Immersion Melting.

10-Ton Stereo Pot for newspaper or printing plant

The C. M. Kemp Manufacturing Co.
405 East Oliver Street
Baltimore 2, Maryland

Please send me your NEW Bulletin No. IE-10 on Immersion Melting. ☐

Please send a Kemp representative in to see me. ☐

Name.....

Company.....

Street.....

City..... Zone.....

State.....

GPEE-8

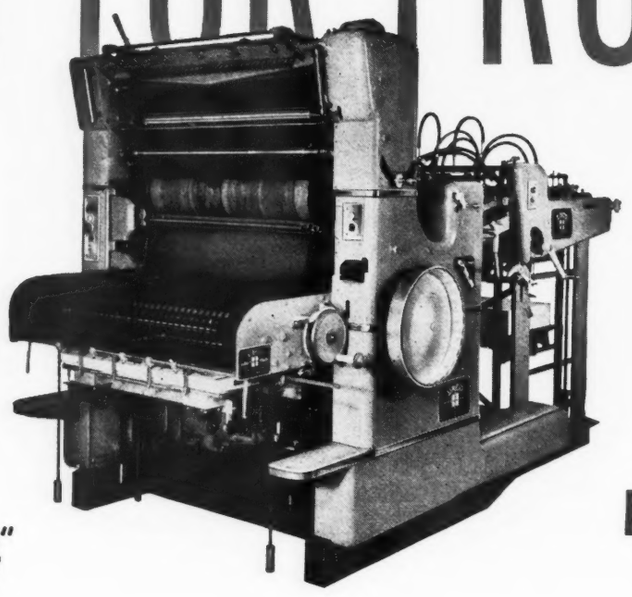
KEMP of BALTIMORE

The C. M. KEMP Manufacturing Co., 405 East Oliver Street, Baltimore 2, Maryland

PRECISION CARBURETORS • BURNERS FOR INDUSTRIAL HEAT CONTROL • FIRE-CHECKS AND OTHER SAFETY DEVICES ATMOSPHERE GENERATORS • INERT GAS PRODUCERS • ADSORPTIVE DRYER SYSTEMS FOR PROCESS CONTROL

the improved EBCO offset press

BUILT FOR PROFIT!



22" x 34"

SINGLE COLOR PRESS

- Patented Pull Side Guide
- Positive Register Detectors on Each Front Guide
- New Solid Feeding Cylinder
- Larger, Sturdier Dampening Rollers
- Full Sight Large Diameter Inking Rollers
- Inker Driven from Main Drive
- Cylinders Balanced on Tapered Roller Bearings
- Rapid Accurate Plate Cylinder Adjustment
- Proper Blanket Tension Easily Applied

Everything about it adds up!

Everything about it adds up to greater production — more profit! Simpler, speedier operation! Easier accessibility! More positive controls! Less operator fatigue — less down time! Increased production means no delays in delivery.

EBCO *Registers with Lithographers Everywhere!*

PRINTING MACHINERY DIVISION • ELECTRIC BOAT COMPANY

445 PARK AVENUE, NEW YORK 22, N. Y. • 400 WEST MADISON STREET, CHICAGO 6, ILLINOIS

RUSS BUILDING, SAN FRANCISCO, CALIFORNIA

New TIMKEN® "Double-Zero" bearing has run-out reduced by half!

Production being increased to meet growing demand

ONE industry after another is setting new standards of accuracy by equipping precision machinery with the new Timken® "Double-Zero" bearings. Maximum run-out tolerance—standard of bearing accuracy—is only 75 millionths of an inch in the "Double-Zero" bearing—half that of the Timken "Zero" bearing which had long been the most accurate Timken bearing on the market.

This amazingly low run-out already is proving invaluable in bringing increased precision to grinding machine spindles, small precision rolling mills, lathe spindles, dividing heads, and gear cutting machines. And production of the "Double-Zero" is being increased to meet the growing demand.

If you make a product that can benefit from greater bearing precision, you'll want to learn more about the new Timken "Double-Zero" bearing. It is produced in the sizes and types indicated in the chart below. For further information write The Timken Roller Bearing Company, Canton 6, O. Cable address: "TIMROSCO".

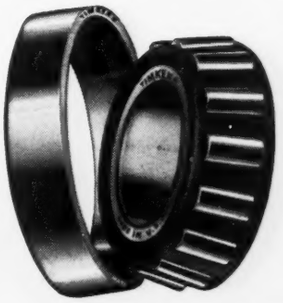
This symbol on a product means its bearings are the best.

A PRECISION TIMKEN BEARING FOR EVERY REQUIREMENT			
CLASS	**"00" (DOUBLE-ZERO)**	**"0" (ZERO)**	**"3" (THREE)**
RUN-OUT	.000075"	.000150"	.000300"
TYPES AVAILABLE	Standard Single Row	Standard Single Row	All types
SIZE RANGE	Up to 10" O.D.	Up to 12" O.D.	Up to 12" O.D.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ↓ AND THRUST →← LOADS OR ANY COMBINATION

Speaking of Figures

SURVEYS COVERING OVER 2,000,000 LINES OF NEWS COMPOSITION SHOW AN AVERAGE OF 1/3 FEWER ERRORS THROUGH THE USE OF MATRIX CONTRAST SERVICE.

Total and averages of 53 Newspapers

	Before Installation				After Installation			
	Total number machines in plant	Lines set	Total errors	Total errors per 100 lines	Lines set	Total errors	Total errors per 100 lines	Per cent reduction in total errors
Plants with 6 to 15 machines	195	603,402	26,009	4.31	686,344	19,314	2.81	34.80
Plants with 16 to 30 machines	371	715,450	32,177	4.50	809,901	23,982	2.96	34.22
Plants with more than 30 machines	886	828,478	51,350	6.20	868,117	37,329	4.30	30.65
	1,452	2,147,330	109,536	5.10	2,364,362	80,625	3.41	33.14

These figures represent the results of accurate audits made *before* and *after* installation of Matrix Contrast Service. All detailed figures, and in most cases the actual proof sheets audited, are available for inspection at any time (subject to authorization of the plants concerned). Note the remarkable uniformity of the average savings effected in plants of various sizes. This tabulation includes only NEWS composition. The average savings on ad composition is 44.05%.

Uncle Mat says:
Write our nearest office for complete information on the installation and maintenance of Matrix Contrast Service in your plant.

Matrix Contrast Service

MATRIX CONTRAST CORPORATION

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Production Control System

By EDWARD H. OWEN

PRODUCTION Control is viewed as one of the vital requirements in relationship to the functioning of smooth operation in any modern commercial printing plant. It creates values that result in greater production of the required quality at lower unit costs and better service to the customer.

Advantages achieved may be termed as coordination of all departments; the status of any job may be obtained daily; relieves management, superintendent and foremen of many details, and delivers the product on the date promised the customer. In addition, it affords a fast turnover of work in process; makes possible deliveries on schedule; enables exact control of and in many instances, elimination of overtime and unabsorbed overhead expense; and finally, gives to the owner a lower investment of working capital.

A number of production control systems have been devised for commercial printing production control. Also, systems have been borrowed from other industries and adapted to the peculiar requirements of the commercial printer. But a production control system must be such that it can be made to function according to the type of work handled in a particular plant.

A revised production control system is now in use in the office of Production Manager Tom Roberts of A. S. Gilman, Inc., Cleveland commercial printing firm. The system was adopted after trying out other methods of production control. While the first methods could be made to work, according to Mr. Roberts, yet they did not exactly suit the requirements of the Gilman plant.

Four-Unit System

The system consists principally of four units: a Press Production Control Board for control of the production for the pressroom; a Daily Press Report indicating the status of each job on the various presses; a Salesman's Job Progress Report containing information concerning the salesmen's orders and also the status of each job in the plant, and a Press Scheduling Blank.

Frank Licher, Assistant Production Manager, is the developer and operator of this system which was installed after a lengthy study of the production handled by the plant. Operation of the production control system is administered cooperatively by Mr. Roberts, Plant Supt. George Ebert, and Mr. Licher.

Several publications, catalogs, advertising pieces, booklets, and pamphlets are typical of the work produced in this commercial plant.

Chief components of the Press Production Control Board (Fig. 2) are 2 in.

DEPARTMENT Cylinder CAPACITY ○ PRESS DAILY SCHEDULE ○ HOUR DATE 5-23-49

MCH. NO.	JOB NO.	CUSTOMER	HOURS TO FINISH	M. R. NO.	RUN NO.	QUAN. PER HR.	START'G DATE	FINISH'G DATE	TOTAL	FORM	TOTAL HOURS EST'D	QUAN. TO DATE	READY TO RUN	TIME TO DATE	TIME TODAY	QUAN. OFF TODAY	WILL FINISH
1	981	Bay City					5/20		44M	Red Blk	— 3 changes in black						
2	927	Mohawk					5/20		11300	Blk - 3rd form							
2	927	Mohawk							11300	Blk - 4th form							
2	927	Mohawk							11300	Blk - 5th form	Work + Turn						
3	979	Totten					5/19		10M	Blk							
3	983	Richmond								Blk - Change on Permit							
4	979	Totten					5/19		10M	Green							
4	983	Richmod							10M	Red							
5	927	Mohawk					5/20		11300	Brown Blue							
5	927	Mohawk							11300	Red							
5	927	Mohawk							11300	Red							
6	927	Mohawk							11300	Red							
6	927	Mohawk							11300	Red							
7	941	Interim					5/23	5/23	5M	Blk							
7	905	Eureka								Blk - 2 forms							

Fig. 1.—*Daily Press Schedule* used by Plant Supt. George Ebert in scheduling work for the various presses at A. S. Gilman, Inc. This 10½ in. by 8¼ in. form is filled out daily by Superintendent Ebert and tells the Production Department what presses are to be used for various jobs. After the schedule has been filled out, a conference is held between Ebert and Production Manager Tom Roberts to determine whether the jobs as scheduled will meet both mechanical and production requirements.

by 2 in. white cardboard tickets (Fig. 3) containing the pertinent information on each particular job, such as job number, customer's name, etc., and pins with vari-colored heads the color of which indicates the color of the ink being run. The Board is mounted in the production office.

Daily Press Report

A Daily Press Report (Fig. 4) with the press count is used in conjunction with the Board and is filled out twice daily by Licher after a check through the pressroom. The date and time the report is filled out is contained on this report. Presses are listed by code in the extreme left hand column with the Order No., Name of Job, Quantity, and Press Count following in the other four columns. The Press Count is taken by Licher for each job on the various presses from the counter on the press. The original is relayed to Production Manager Roberts, and the duplicate copy to George Ebert, Plant Superintendent. This gives both Roberts and Ebert a picture twice each day of the progress of each job on the various presses.

Salesman's Job Progress Report

Another form used in connection with the production control system is the Salesman's Job Progress Report (Fig. 5). This form is filled out once a week by Licher for each of the firm's salesmen. Duplicate copies are kept in the production office. Only one salesman's orders are listed on each form. Notations are made each day under the proper department heading according to the status of each order in the plant. This information is obtained by Licher on a daily tour through the shop to see what progress has been made on each job.

Such information tells the salesman the whereabouts in the shop of any one of his customers' orders. These Job Progress Reports are used by the salesman in the event of a customer's inquiry as to the status of his order. It also tells the company's representatives if their orders will or will not be completed by the date promised the customer. A check with the production department, in this case, might help to overcome this delay.

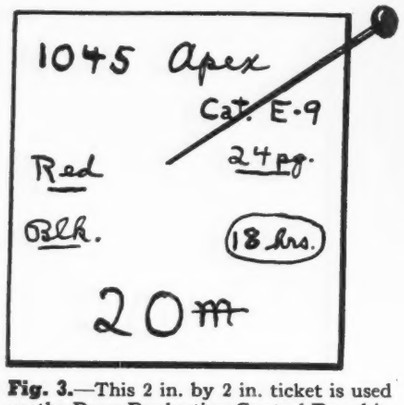


Fig. 3.—This 2 in. by 2 in. ticket is used on the Press Production Control Board in the office of Production Manager Tom Roberts of A. S. Gilman, Inc. Information vital to the scheduling of the job is placed on each ticket, which in turn is pinned to the Board. This information includes the job number, customer's name, total impressions, estimated hours, color of ink and the number of forms.

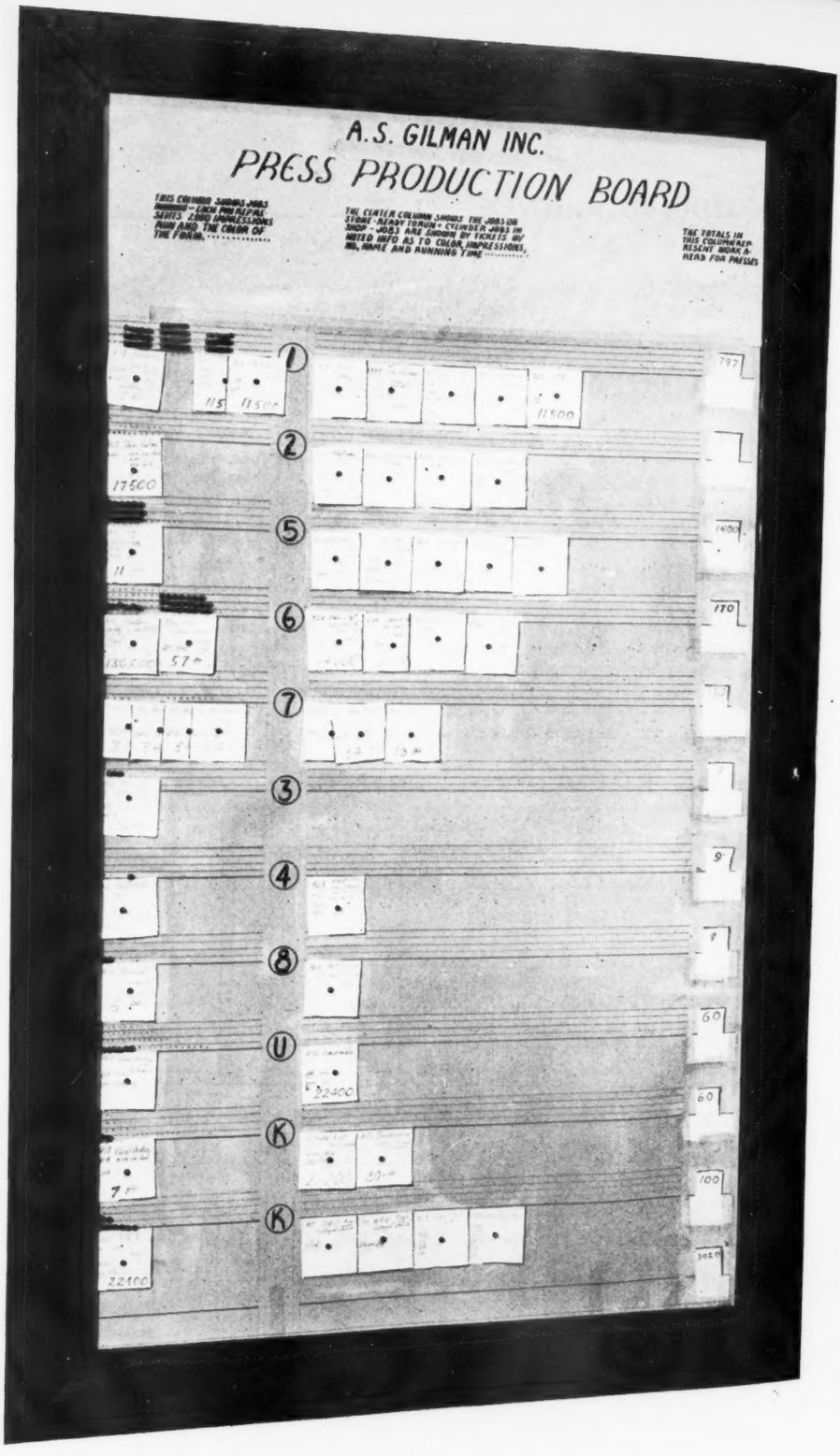


Fig. 2.—*Press Production Control Board* in use by A. S. Gilman, Inc., Cleveland commercial printing firm. Progress movement of jobs is from large center column to the left side of the Board. Tickets contain the number of the job, customer's name, total impressions, estimated hours, color of ink and number of forms. Large encircled numbers in vertical column represent presses. Each pin over the tickets in the left-hand column represents 2000 impressions already run on that job and the black or colored heads designate the color of the ink being used. The figures on the tickets in the extreme right-hand column indicate the total estimated hours ahead of each press. This column acts as a load chart for the pressroom. The framed board measures 29 in. by 48 in.

Important Function

It can be seen that securing the information for the salesmen is one of the

most important functions of the production department, particularly since it is a means for preserving harmonious customer relationship.

This form is an important link in the proper functioning of the control system. It enables the production department to keep tabs on the progress of each job. The information contained on the form tells the production executives when a particular job is ready to go on the presses.

The Salesman's Job Progress Report is an 8¼ in. by 7 in. form consisting of the salesman's name and the date it was filled out. Eleven vertical columns contain the Order No., Customer's Name, Description of the job and the remaining columns are keyed for each department in the plant. The date the job has progressed through each department is noted under the proper heading. Several lines at the bottom for Remarks complete the form.

Controlling Work Flow in Composing Room

Up to this point, there has been no discussion with respect to the control of work flow in the composing room. It will be noticed in the miniature illustration of the Salesman's Job Progress Report (Fig. 0) that columns have been provided for handling composition, proofs, etc. It is, of course, just as important in a control system to know about the progress of composition for every job in the plant. The spaces provided for these operations yield the necessary information to keep composition in harmony with the press scheduling. In cases where the composing room load becomes too heavy, Superintendent Ebert confers with the composing room foreman to facilitate matters. In such cases, four courses are open to him: (1) He can advance the work on a particular job, (2) He can work operators overtime, (3) He can put on an extra shift, or (4) He can send the work out to a typographic composition house.

Description of Board

Returning to the Control Board which measures 29 in. wide by 48 in. long, it is divided into four vertical columns with progressive movement from right to left. The second column from the left side of the Board contains large numbers from 1 to 7, the letters U and two K's. These are placed vertically several inches apart and correspond to certain presses. For example, No. 1 is a two-color press, No.'s 2, 5, 6 and 7 are automatic feed cylinders, No.'s 3, 4 and 8 are hand-fed cylinder presses, U is a Miehle Unit and each K signifies a No. 2 Kelly.

The numbers in the extreme right-hand column represent the total work hours ahead of each press. All preparatory and estimated running time for each particular job are included in this total. Each total lines up horizontally with the corresponding number of the press. The grand total of production hours ahead of all the presses appears at the bottom of this column. When this figure reaches a certain point, necessary steps are taken to expedite the scheduled production. This might mean putting on an extra shift, working overtime, or inter-changing scheduled work from one press to another. The latter expedient is explained further on in this article.

These numbers provide at a glance, the total hours ahead of each press in the plant. In order to make this column function properly, Roberts must know how many productive hours are scheduled for each press per week. He includes makeready, changeovers, wash-ups, as well as running time in his estimates.

Scheduling Presses

The scheduling of work for the various presses is done by Superintendent Ebert on a form called the Daily Press Schedule (Fig. 1). Roberts confers with him to decide on the best method of scheduling. Such a conference is vital, for both mechanical and production viewpoints are shared by these executives to arrive at the proper operating schedule.

The second column from the right is the largest one on the Board. Here are kept one or more tickets indicating the jobs which are on the stone and ready to run. It also furnishes Roberts knowledge of what cylinder jobs are in the shop. The furthest ticket to the left in this column represents the job which will go on that press next.

Information noted on each ticket is the number of the job, customer's name, the color of the ink to be used, total impressions and the total hours of running time. When more than one form is used and/or more than one color, the number of forms and colors are indicated on the ticket.

The remaining column, which is at the extreme left side of the board, contains the jobs that are running on the presses. The ticket has been moved from the ready column and appears next to the number of the press. The tickets are impaled on the framed wall board by ball-head pins.

Function of Pins

Arranged in horizontal rows over each ticket are pins with black or colored heads. Each pin is indicative of 2000 impressions already run on that job and the colored head represents the color of ink being used. For example, if a job calls for 10 thousand impressions in red and black ink and it is being run on a one-color press, the pins would appear as follows: one row of five black pins and one row of five red pins. This would indicate that this particular job has been completed.

The Board is changed twice daily by Licher in accordance with information he has compiled in the Daily Press Report. When the job is finished, the ticket is lifted from the Board and given to Roberts for proper notation. The next ticket in line is then moved over, indicating that job is now on the press.

Flexibility of System

Recognizing that no production control system is workable without a certain

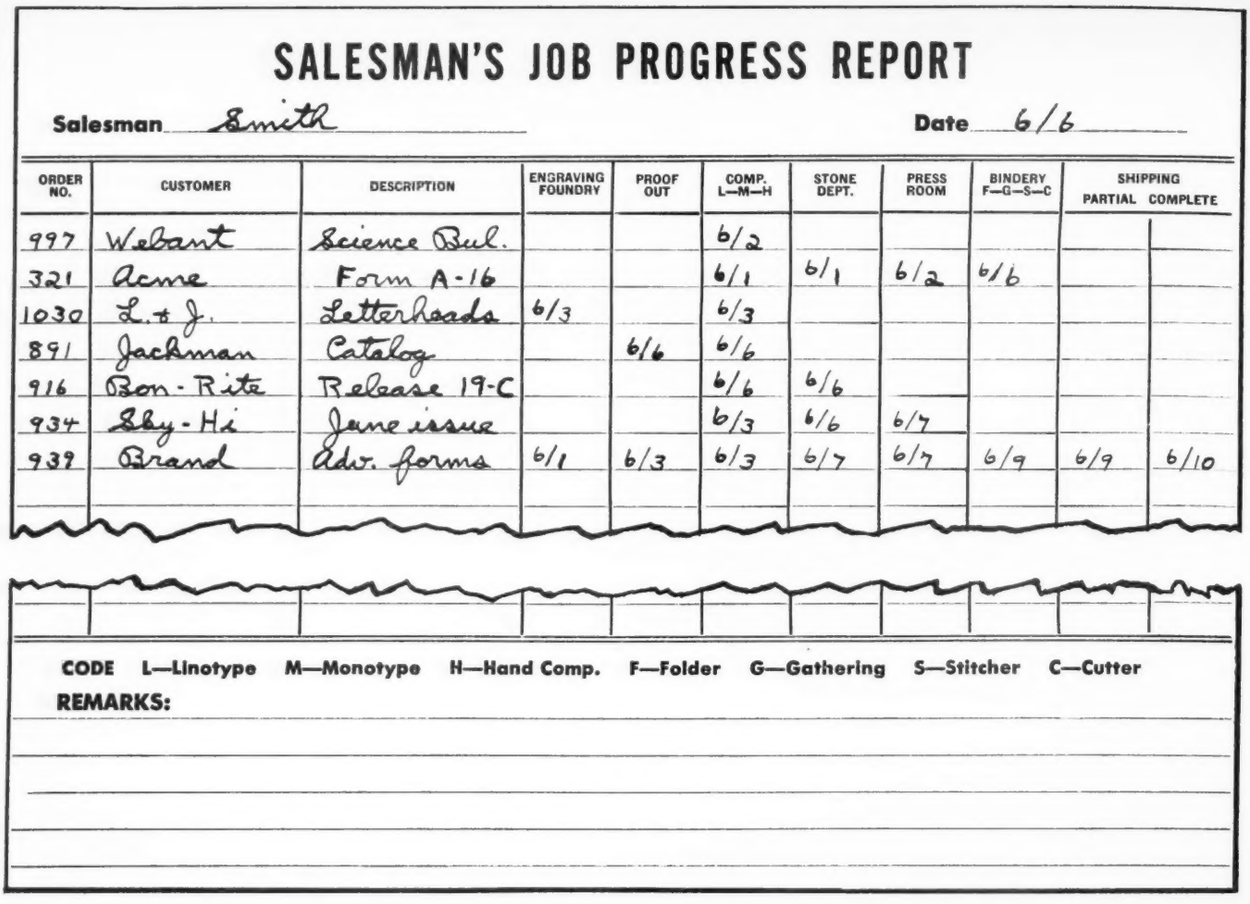
DAILY PRESS REPORT

Date 6/3 Time 2:00

PRESS NO.	ORDER NO.	NAME OF JOB	QUANTITY	PRESS COUNT
1-2C	618	Apex Blue + red	10 M	10500
2-A	251	Brilliant + form off	2 M	✓
3-H	901	Jones (blk.)	5 M	2400
4-H	916	Manton	500	570
5-A	2364	Bondent (brown)	25 M	21 M
6-A	932	N/S Gum Labels	57500	14500
7-A	522	Ace Lite	36 M	17 M
8-H				
30-U	811	Star	1350	675
28-K2	907	Brentwood (blk)	6 M	3400
29-K2	454	M/P (Blue)	40 M	4 M
26-BK	251	Apex Cat N-2	2 M	✓
27-BK				
24-V	961	Condon	5 M	✓
25-V				
32-V	957	Brite Elec.	175	✓
22-Cr.	2661	Office	5 M	300
21-GH				
20-GH				
40-C				

CODE
2-C—Two Color A—Automatic H—Hand Feed U—Unit
K-2—Large Kelly BK—Small Kelly V—Vertical
CR—Craftsman GH—Gordon, Hand Feed O—Offset

Fig. 4.—*Daily Press Report* indicating the status of each job on the various presses is filled out twice daily by Assistant Production Manager Frank Licher. This information is transferred to the Production Control Board in the form of pins. Each pin with varicolored heads indicates that 2000 impressions have already been run on that job. Form measures 4¼ in. by 7¼ in.



SALESMAN'S JOB PROGRESS REPORT

Salesman Smith Date 6/6

ORDER NO.	CUSTOMER	DESCRIPTION	ENGRAVING FOUNDRY	PROOF OUT	COMP. L—M—H	STONE DEPT.	PRESS ROOM	BINDERY F—G—S—C	SHIPPING PARTIAL	SHIPPING COMPLETE
997	Webant	Science Bul.			6/2					
321	Acme	Form A-16			6/1	6/1	6/2	6/6		
1030	L. + J.	Letterheads	6/3		6/3					
891	Jackman	Catalog		6/6	6/6					
916	Bon-Rite	Release 19-C			6/6	6/6				
934	Sby-Hi	June issue			6/3	6/6	6/7			
939	Brand	Adv. forms	6/1	6/3	6/3	6/7	6/7	6/9	6/9	6/10

CODE L—Linotype M—Monotype H—Hand Comp. F—Folder G—Gathering S—Stitcher C—Cutter

REMARKS:

Fig. 5.—Used in conjunction with the production control system in operation at A. S. Gilman, Inc., is the Salesman's Job Progress Report. Frank Licher, Assistant Production Manager, fills out this 8¼ in. by 7 in. form once a week for each of the firm's salesmen. Only one salesman's orders are listed on each form. Notations are made each day by Mr. Licher under the proper department heading, noting the status and progress made on each salesman's job. Information contained on this form is important in preserving harmonious customer relationship. There are 16 horizontal spaces in this form.

amount of flexibility in its operation, the production department at the Gilman plant has found means of handling nearly every tight situation. If a press becomes overloaded with say, 1000 or more production hours, some of the load can be transferred to other presses.

For instance, presses No. 2, 5, 6 and 7 are interchangeable in assigned jobs. If too much work is ahead of one of these presses or should one break down for mechanical reasons, the work assigned to a machine can be shifted to any one of three other presses. Jobs on presses No.'s 3, 4 and 8 are also interchangeable, as are both Kelly presses. Still another instance, is that jobs assigned to the No. 2 Kelleys can be shifted to the Miehle Unit.

This flexibility in the control system is carried still further in the event of a critical upset in scheduled production. jobs assigned to presses No.'s 2, 5, 6 and 7 can be cut down for running on either Kelly press. In the case of a rush job which must run on a press that has scheduled jobs running or waiting to run, the rush work is given priority and supersedes the already scheduled production. If a press run is halted to accommodate this rush job, the ticket and pins remain in the running column along with the rush job.

This cushion allowance is extremely valuable to plant operation inasmuch as several monthly publications are printed by the Gilman concern. The scheduling of this work and other long runs as well, is made easier by the fact that the cushion time exists. It also acts as a sedative to the nerves of the plant's mechanical and production executives for they realize alternative production routes can be followed.

Another expedient followed by Mr. Roberts in operation of the system helps to maintain harmony among representatives of the sales force. If two or more sales representatives feel that jobs for important customers should be expedited (because of customer "needling") and Mr. Roberts feels that he can accommodate only one demand, a meeting of several sales and management executives is held. Among the several people present at the meeting a decision is reached as to which job or jobs shall be expedited.

ATF Annual Report

Thomas Roy Jones, President of American Type Founders, Inc., in the 56th Annual Report to the stockholders presents a complete picture of the firm's status and past history. Net earnings after deductions for taxes, he reported, were $2.17 million, equal to $3.48 a share. This was second only to the company's all-time high the preceding year when it earned $2.615 million, equal to $4.18 a share. In the report Mr. Jones stated, "We have brought out what we believe to be revolutionary equipment for the manufacture of gravure printing cylinders."

According to recent announcement by E. J. Schmiel, Secretary of Norma-Hoffmann Bearings Corp., W. L. Hubbard has been elected President of the firm. Mr. Hubbard succeeds C. P. Collins who resigned.

IPI Color Guide

BOTH standard and alternate process and comic colors are included in the newspaper color printing guide issued by International Printing Ink. Also shown are 8 halftone web colors and 16 run of paper colors. All color specimens bleed out to page edges for comparison with other colors. A section on under-printing colors is included. Copies may be obtained by writing *Printing Equipment Engineer*.

PORTRAITS and THUMB-NAIL SKETCHES

Board of Governors, International Association of Printing House Craftsmen, Inc.

For those who cannot attend the 1949 San Francisco Convention, Palace Hotel, September 4, 5, 6 and 7, we are presenting portraits of International officers together with thumb-nail biographies of each. International membership now consists of about 11 thousand Craftsmen. Local clubs number 84 in the United States, Canada, Havana, Cuba and Cape Town, South Africa. Craftsmanship is flourishing and it now appears the growth will be sustained through next year.

GRADIE OAKES
President
Chicago

During the past Association year, Gradie Oakes has traveled hither and yon to address local Craftsmen's clubs and other organizations associated with the Graphic Arts Industry—both for talking about photoengraving and to spread good will for the International. *Printing Equipment Engineer* feels that all those groups who have heard him talk certainly will appreciate the great amount of time Oakes has taken from his business to tell others something about photoengraving techniques and the workings of the International Association. Oakes is President and General Manager of the successful Process Color Plate Co., Chicago. Company makes plates by several processes; adopts new techniques promptly.

RUSSELL J. HOGAN
First Vice President
New York, N. Y.

Plant Manager of New York's well established Wickersham Press, Russell J. Hogan has progressed to the office of First Vice President in the International. He is an engaging speaker concerning letterpress. This is because he is an expert pressman and photoengraver. In tying the two processes together, he is competent to speak informatively as to how to get the best printed results. Like President Oakes, he has given liberally of time and talents in speaking before many groups, both within and without Craftsmen groups. He is a past president of the New York Club of Printing House Craftsmen. He has devoted a great deal of his time instructing students in New York technical-trade schools.

FRED C. BAILLIE
Second Vice President
Ottawa, Can.

Canada's official representation on the International Board of Governors is Fred C. Baillie. United States Craftsmen as do Canadian Craftsmen, like him much because he's thoroughly American. He speaks softly at all times, carries a twinkle in his eye—even when in disagreement with whomever he happens to be talking. He is Superintendent of the Canadian Bank Note Co., in Ottawa; has been with that company for 30 years. His firm prints security work only, such as bank notes, bonds and stamps for the Dominion of Canada, as well as stock certificates for private industry and municipalities. He's a past president of the Ottawa club. At one time he was associated with the American Bank Note Co., New York.

J. HOMER WINKLER
Third Vice President
Columbus, Ohio

There isn't any other Craftsman in the world just like J. Homer Winkler. His reputation is based principally upon his effectiveness in Graphic Arts Research of which the industry has been so much in need. Along with this ability, he is an accomplished speaker upon technical subjects. He is technical adviser to the Graphic Arts Div. of Battelle Memorial Institute, Columbus. During the past year he has spoken frequently to Craftsmen and other Graphic Arts groups upon Xerography, the pressureless, inkless electrostatic process which may become another printing process in the future. In his capacity as Intl. Membership Chairman during the year, he has added a not inconsiderable number of new members.

TOM MAHONEY
Educational and Research Chairman
Cleveland, Ohio

During the International year, the membership has had an opportunity of getting acquainted with the work of Thos. P. Mahoney. He was program chairman for the Cleveland convention. He is a past president of the Connecticut Valley club. His present position is that of general manager for the American Color Process Co., Cleveland, a division of American Greeting Publishers, Inc. The division specializes in making color separations and positives for greeting cards. Formerly, he was associated with White & Wyckoff Mfg. Co., Holyoke, Mass., as production manager; he was department manager for Sheffield Co., New London, Conn., and of Whitlock Press, Inc., Middletown, N. Y. Is married—has three children.

A. GORDON RUITER
Past President
Boston, Mass.

A. Gordon Ruiter, during the 1948 Cleveland convention, insisted that the sessions start on time. They did. In a number of cases, the chairman of the session called upon Ruiter to make extended remarks until a quorum arrived. We're unable to report whether or not this strategy will be followed at future international conventions. Anyhow, Ruiter had a successful year as president, he, too, traveling considerable distances to let the membership have a look-see at its president. Ruiter is superintendent, letterpress department, Forbes Lithograph and Printing Co., Boston. He is well known and the association grew and prospered during his presidency. His interest in Craftsmanship is without abatement.

GORDON J. HOLMQUIST
Public Relations Chairman
Los Angeles, Calif.

The three elements in printing liked best by Gordon J. Holmquist are typography, layout and design—in that order. Holmquist is a graduate of University of Los Angeles at Los Angeles. He relates that he worked his way through college playing in an orchestra. He's a past president of the Los Angeles club. He is a partner in the Cole-Holmquist Press. Says all his business experience before becoming a partner in his present firm was with the Times-Mirror Printing and Binding House, Los Angeles. He is a member of the Rounce & Coffin club. Currently, his outside interests are in book collecting and golf. He is a member of the permanent committee for promotion of the Graphic Arts, Los Angeles Public Library.

EDWARD T. SAMUEL
Treasurer
Cleveland, Ohio

Dogged persistence has kept Edward T. Samuel on the path to success over a long period of years. He is President and General Manager of Samuel & Walker Printers in Cleveland. Summing up the remarks of his associates on the Intl. Board of Governors, we'd say he keeps the Association's books with meticulous care. Like practically all other officers, he's a past president of a local club, which in his case is the Cleveland club. Several years ago, during the food rationing period, he tried farming on a small scale. He admits he doesn't have the necessary talents for that activity, so he gave it up, somewhat lighter in weight than is good for a printing executive. Estimating and plant management are more to his liking.

R. L. OLANDER
Publications Chairman
Glen Ellyn, Ill.

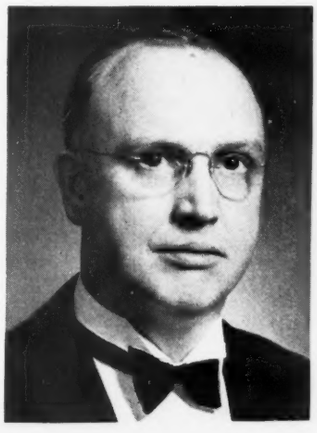
Practically all of Russell Olander's effective work for the International is carried on right within his own printing plant in Glen Ellyn, Ill. He's editor of *Share Your Knowledge Review*. Getting out a publication is something if other work demands scheduled appearance. He's been in the printing game about 30 years. Started his apprenticeship in the Holmes Company composing room, Chicago. Later, he worked as assistant superintendent of the Twentieth Century Press, also in Chicago. He has served as secretary of the Chicago club. He is an all-around printer. When asked which part of the printing business he liked best, he replied: "I have no special liking—I love it all because of its diversity."

PEARL E. OLDT
Executive Secretary
Cincinnati, Ohio

International Secretary Pearl E. Oldt is one of those Craftsmen who really come under the heading of Educator. Most of his professional career has been devoted to educational work in our public school system. However, his work in the educational field seems to have fitted him for his present position of International Secretary with offices in Cincinnati. He is the Association's first full-time secretary, which post he has held for several years. He is a former president of the Grand Rapids (Mich.) club for two years and was its secretary for 12 years. His hobbies consist of working with figures, mechanics and radio. His clipped, concise discussions at International conventions bring you right to the point.

ALFRED T. PETERS
Second District Representative
Utica, N. Y.

In the Second District, Alfred T. Peters is representative. Peters is Vice President and Sales Manager of Thos. C. Peters Printing Co., in Utica, N. Y. He has been with the company for 30 years. He is a graduate of Utica Free Academy. He is the first president of the Utica Craftsmen's club. He served as president from 1930 to 1933. This company is one of the largest producers of fine printing between Albany and Rochester. Mr. Peters' outside activities keep him busy. He is treasurer of the Lions club; president, Dunham Public Library, Whitesboro; president of Whitesboro Central School; a director of N. Y. State School Board Assoc., and a past master of Faxton Lodge No. 697 in Utica, state of New York.



JOHN L. (Johnny) REAY
Intl. Representative-at-Large
Columbus, Ohio

Boston, Philadelphia, Cleveland, Cincinnati, Detroit, Kalamazoo and Columbus. When we tell you Johnny Reay has lived in all, you'll be inclined to think he is a tramp printer. Such is not the case. His duties with the old Queen City Printing Ink Co. and his present association with the Braden-Sutphin Ink Co. seemed to cause him to be pushed about a bit. He is now executive vice president and sales manager for Braden-Sutphin—resides in Columbus (that is, he does when he's home). In fact, it's difficult to tell in what towns he hasn't attended a monthly Craftsmen's club meeting, or to start things rolling for the organization of a new club. Affable, personable, helpful, enthusiastic—that's him in one package.

JOHN R. DONOHUE
First District Representative
Boston, Mass.

Some of the International personnel from whom *Printing Equipment Engineer* tried to secure biographical information for these miniature sketches just don't give. John R. Donohue is one of them. We respect the reticence, however. Donohue is branch manager of Sinclair & Valentine Co., in Boston. He has been with the company 33 years. We also learned that he used to be a pressman. Anyhow, we hear he's a first rate district representative.

DeWITT A. PATTERSON
Foreign Representative
Berwyn, Ill.

During World War II, DeWitt A. Patterson traveled over 100 thousand miles by air to all parts of the globe. During part of that time he was Managing Director, International Publications Division for Crowell-Collier Pub. Co., New York. He has settled down since then. He now is Plant Superintendent for Color Engravers Div., Alco Gravure, in Chicago. When you think of gravure, and particularly Alco, think of big runs of publications and fine color printing. Patterson is a past president of the Chicago club. He at one time was an International vice president. He is a graduate of Chicago Art Institute, Chicago School of Commerce. Extra-curricular activities include painting and printing research.

JAMES ROSS
Third District Representative
Montreal, Can.

We don't have a great deal to write about Jim Ross, Third District Representative. Reason is that, like John Donohue he's difficult about furnishing personal data. He is superintendent of Consolidated Lithograph Mfg. Co., Ltd., Montreal, Can. He has been with the firm 21 years. He likes reproduction and platemaking best in lithographic operation. He has one hobby—it's golf. Third District is comprised of Buffalo, Montreal, Ottawa, Rochester and Toronto Clubs.

ROBERT POLLOCK
Fourth District Representative
Philadelphia

The Fourth District is one of the first, if not the first, to have a regularly appointed Deputy International Representative. Before being elected and confirmed by presidential appointment, Robert R. Pollock was deputy to C. R. (Mac) McClure, previous Fourth District Representative. Pollock is connected with sales in the Godfrey Roller Co., Philadelphia. He has been with that firm 15 years. He likes sales research best of all in connection with his work with Godfrey. His hobbies are golf and hunting. With respect to Craftsmanship, he'd like to see all eligible printing plant executives take membership in a Craftsmen's club because today's printing executive can't play the role of lone wolf and succeed.

ALVIN F. FRIEDRICH
Fifth District Deputy Representative
Indianapolis, Ind.

Meet the Fifth District Representative successor to Ollie G. Fricke. He is Alvin F. Friedrich. He is connected in sales capacity with Advance Independent Electrotype Co., Indianapolis. His job is expansive—he gets around 19 states. He attended Butler University and came away with an honorary in advertising (Alpha Delta Sigma). In World War II he was a captain in the Air Corps. He flies his own plane and travels by air when possible. His plant is one of the largest and produces commercial and advertising plates. Is specially interested in plastic and Claybourn plates and in mechanical processes. In 1948 he delivered 43 addresses to ad clubs and universities, which is not an inconsiderable record.

OLLIE G. FRICKE
Fifth District Representative
Dayton, Ohio

After a man has labored in the vineyard for some time, he can't aspire to greater heights than to hold the esteem of his fellows. In retiring from active duty as Fifth District Representative this Association year Ollie G. Fricke holds the esteem of all Craftsmen in the Fifth District. Fifteen-odd years is a long time to hold this job, but Ollie Fricke did discharge his duties with great credit. At the Fifth District Conference, Dayton, in June, the clubs in the Fifth District presented Ollie with a fine grandfather's clock. Ollie is Vice President of Sinclair & Valentine Co. and manages that company's Dayton (O.) plant. We hope he'll continue his unbroken record of attendance at all International conventions.

JOHN M. MOREHOUSE
Fifth District Deputy Representative
Cincinnati, Ohio

The Fifth District has grown in size (that is, number of clubs—there are now 11 and soon may be 13) so that it is necessary to have a Deputy District Representative. Thus John M. Morehouse was elected Deputy at the Dayton Fifth District Conference subject to presidential appointment. He will assist Alvin F. Friedrich in representing the International at club meetings in the Fifth District. Morehouse is associated with Harris-Seybold Co. in a sales capacity in the central states. In the industry, he has been a printer, plant manager and is now in sales work. He took special courses at University of Cincinnati. He is a member of the Cincinnati Business Men's club and the Executives' club, also in Cincinnati.

HARRY CHRISTOPHER
Fourth District Deputy Representative
Baltimore, Md.

Harry Christopher is Fourth District Deputy Representative. He is president and treasurer of the Paper Supply Co., Baltimore, Md. He has been with the company since its inception in 1940. He has held most of the offices in the Baltimore club including that of president. Period.

FIELDING UTZ
Sixth District Representative
Milwaukee, Wis.

Affable Fielding A. Utz has been Sixth District Representative for a number of terms. It appears that he wears well with Craftsmen in his district. When you first meet him, you somehow get the impression that here's a man who is perpetually looking for a place to relax minus his tie and shoes in the pleasant home which is his. But don't let him fool you—he's a live wire. He is president of Milwaukee Printers Roller Co. and has been associated with the company for 30 years. Thus you can see that he is a stable person. Not only is he a roller manufacturer but he has been a printing machinery machinist. He likes gardening. Pursues growing of choice plants in spite of destructive bugs and vermin. Loves to dose 'em with poison.

ELMER LEACH
Eighth District Representative
Des Moines, Iowa

Just take a look at this guy. He enjoys life to the fullest. He manages to get a kick out of owning a commercial printing plant in Des Moines, Ia. He is also the Eighth District Representative. Also we want to mention that he and Mrs. Leach both are nuts about big league baseball. It wouldn't surprise us, either, if he and the Missus saw some pre- and post-convention games on the coast. Aside from this, Elmer Leach has been a small-town printer, composing room foreman, assistant superintendent and owner. He has served the Des Moines club as its president and also as secretary. He is a member of the Chamber of Commerce, the Masonic bodies including Knights Templar, Consistory (32 deg.) and Shrine.

HAYWOOD HUNT
Eleventh District Representative
San Francisco, Calif.

Like Old Man River, Haywood H. Hunt flows on forever. He has been a mighty useful citizen, too. He has served the San Francisco Club as president; was in on the founding of that club in 1921. He helped organize the Pacific Society of Printing House Craftsmen and was its first president for 27 months. Internationally, he was editor of *Share Your Knowledge Review* for nine years. While making no claim to being a bibliophile, yet this writer thinks he can qualify to be called one. (He does collect books.) He is head of the business called Haywood H. Hunt, Typographer and Printer. He's an honorary member of the Seattle club. He has always seemed to be happy in his chosen profession.

WILLIAM G. CUDDAHY
Seventh District Representative
Memphis, Tenn.

W. G. Cuddahy is Plant Manager of the Gulf Paper Co. in Pensacola, Fla., which position he has held a little over one year. Although he became proficient as a pressman, he now likes general production problems in the plant. He was pressman with Sutherland Paper Co.; Superintendent with Great Lakes Box Co., Cleveland, and Superintendent with Plough, Inc., Memphis, Tenn. He relates that the Gulf Paper Co. was organized a little over a year ago. The firm had but one skilled employee but now is operating with a force of about 50. Each employee has been trained in the Gulf plant. He is a member of the Memphis (Tenn.) club and has served it as a vice president. His hobbies are golf, bowling and baseball.

CHARLES RICHARDSON
Tenth District Representative
Seattle, Wash.

When a fellow can roam around (and enjoy it) over four Western States such as Idaho, Montana, Oregon and Washington) there must be something fascinating about selling printers' ink. That was the experience of Tenth District Representative Charles D. Richardson. He has been connected with General Printing Ink Co., Seattle, for the past five years. Before that, he was associated with Ralph Leber Co., Seattle, for 17 years. He is a member of the Seattle club. The best part of the ink industry, says he, is color matching. Next best part of the daily chores is fishing.

HAROLD G. GALE
Ninth District Representative
Fort Worth, Texas

Harold G. Gale resides in Fort Worth—located in that section of the United States which is unofficially known as Texas, Unlimited. Being Ninth District Representative in the largest state of the Union, Craftsman Gale thinks in terms of long-distance travel when he is called upon to represent the president of the Association. This should be a real object lesson in Craftsmanship. Gale is Division Manager for the Label Manufacturing Div. of the Waples-Platter Co., Fort Worth. Firm's outside label business now totals 80% of firm's annual volume. Previously, he has functioned as pressman, pressroom foreman and plant superintendent with other companies in Texas. Past president of the Fort Worth club.

H. F. EDMONDS
Twelfth District Representative
Los Angeles, Calif.

H. F. (Bunny) Edmonds is secretary-treasurer and co-owner of Mitchell & Herb Engraving Co., in Los Angeles. For the past nine years he's been anchored. He likes color process work best because more progress is being made in that branch of the engraving industry. He has had a varied career. He started work when 11 years of age. Completed the ITU course in printing. Served apprenticeship on the Salt Lake City (Utah) *Telegram*. Became composing room foreman and later mechanical superintendent of a daily newspaper. Eventually, he became assistant manager of Intertype's Los Angeles branch. Later he was in sales work for Mergenthaler Linotype Co. Is a past president of Los Angeles club.

HERBERT THRELFALL
Thirteenth District Representative
Providence, R. I.

Herb Threlfall never has told *Printing Equipment Engineer* whether or not he has made official trips to Cape Town, South Africa or to Havana, Cuba, in pursuit of organization matters for the president of the International Association. If the occasion should arise, no one doubts but what he'd be right on the ball. Rather diminutive in stature, he seems at all times to be full of energy. He is president-treasurer of John F. Greene Co., Inc., Providence, R. I. Company produces offset and letterpress printing. He served his printing apprenticeship in England. Was International Secretary for a number of years—in fact, he was the last voluntary secretary, the job now being held in expanded form by Secretary Pearl E. Oldt.

MANNIE HUBBELL
International Historian
Chicago

We're certain that Mannie Hubbell doesn't lay any claim to being a historian on the order of Woodrow Wilson. However, since he has been so intimately tied up with the International Association and the printing industry for some time, his work ought to be eminently satisfactory. That dispassionate, overall viewpoint should be his in this work—he looks it. For a time Hubbell was connected with the production department of the Meredith Publishing Co. in Des Moines, Iowa. During the past several years he's been engaged in production work with the Neely Printing Co., Chicago. He has been International Educational Commission Chairman. We believe he's also a past president of the Des Moines club.

NELS LUNDELL
Fourteenth District Representative
Minneapolis, Minn.

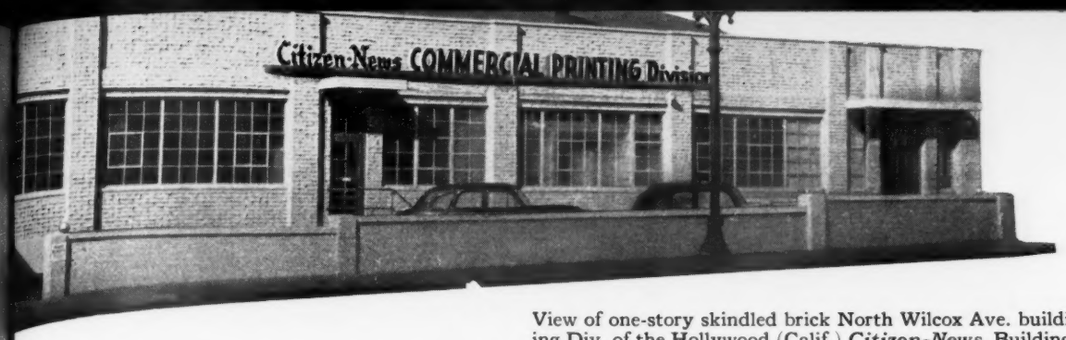
Twenty-three years employment with the company is the record established by Fourteenth District Representative Nels A. Lundell. He is superintendent of the Lund Press, Minneapolis. His pet likings in his job are composition and layout. In fact, his hobby is making layouts. He attended the Minneapolis School of Art. He came to the United States from Sweden in 1923 and started employment at the Lund Press as an errand boy. He has served the Minneapolis club as educational chairman, secretary-treasurer and president. The Lund Press is celebrating its twenty-fifth year in business this year. The owner, W. O. Lund, was second president of the Minneapolis club.

HAROLD G. CRANKSHAW
Club Bulletin Contest Chairman
Washington, D. C.

To acquire the education which you deem necessary to fit yourself for your vocation, a lot of work is involved. Harold Crankshaw, Chairman of the Club Bulletin Contest, is evening principal at Central, and printing instructor at Western Evening High Schools in Washington, D. C. He holds degrees from Carnegie Institute of Technology, Cornell, and recently has been working on an Ed. D. from George Washington. Cranshaw tells it: "My hobbies are too many. They are photography, book collecting, educational research and travel (the latter keeps me broke. We have three children, who also help keep me broke.)" He's a past president both of the Natl. Assoc. for Printing Education and Natl. Graphic Arts Education Assoc.

OSCAR PEDERSEN
50th Convention Genl. Chairman
San Francisco, Calif.

When presenting portraits of men in the International official family, it is fitting that the general chairman of the annual convention should be included. The chairman of these annual affairs, mostly is a brief-lived official of International prominence. Principally, his work is one of high tension organization frequently with inexperienced Craftsmen. He also deals with watchful International officials. Anyhow, conventions always seem to have happy endings. Oscar Pedersen, this year's chairman, is superintendent of the Cooperative Bindery Co., in San Francisco. He's been with the firm 38 years. The firm does law books, edition and school book binding. Pedersen is a past president of the San Francisco club.



View of one-story skindled brick North Wilcox Ave. building facade, Commercial Printing Div. of the Hollywood (Calif.) *Citizen-News*. Building area is 130 ft. wide by 104 ft. depth. Firm does general commercial printing—all by letterpress process.

Lost Motion Is Eliminated In Workflow

Compact equipment layout with sufficient aisle widths — Paper stock and printed matter glide along on mobile equipment in plant of Commercial Printing Div. of Hollywood (Calif.) *Citizen-News*.

By ROBERT ROYDEN GREER*

**Printing Engineer, Los Angeles, Calif.*

THE Commercial Printing Div. of the Hollywood (Calif.) *Citizen-News* had operated for many years in the basement of the *Citizen-News* building. It became rejuvenated when it emerged from the basement into its own building early this year at 1535 North Wilcox Ave. The new building is 130 ft. wide by 104 ft. depth. Harlan G. Palmer is the owner, both of the Commercial Printing Div. and the Hollywood *Citizen-News* and the buildings. Horace Turner is general manager of the Commercial Printing Div. Al Bond is assistant manager. Lou Matthias is plant superintendent.

The Division does a general commercial printing business by letterpress process. In addition, it operates a ticket printing department which is a considerable part of its total business.

The transformation from old to new was so impressive that morale of the entire organization has risen sharply—along with production. As a result, new accounts have gravitated to the plant, even against an ever-sharpening competitive situation.

Lost motion, both in physical production and supervisory control, have been eliminated. With each employee representing 11c per min. hour cost, it is compulsory not to waste very many minutes per work day. It seems trite to say: The customer doesn't pay for wasted minutes, so why should the plant owner pay for them?

Now, more than ever, effortless production with scientific layout and centralized supervisory control represent the only way in which to cope with increased labor costs on the one hand, and competitive bidding with a very sharp pencil, on the other hand.

In this article, only the equipment layout, production flow and time-saving features of the new plant will be discussed. Perhaps many executives may be familiar with the principles involved in workflow but haven't been able to apply them in practical operation. If this explanatory discussion is of help to them, the writer will feel well repaid for his efforts.

In pre-planning the new plant with the assistance of the writer, the Commercial Printing Div. management took into consideration that Burma Road production methods waste manpower; Hunt, Hunt & Hunt, Inc., wastes man hours in production; Smudge Pot illumination increases accidents, employee irritation and work error, thus increasing hour costs. Management also took into consideration that CO_2 is OK for fire extinguishers but is not OK for humans. Thus it can be seen that poor ventilation and heating knock many good production hours right out the window.

In discussing the general plant equipment and workflow layout, we will pass over discussion of the arrangement of the business office—important as it is. Also, we'll just mention the special office *5*, which is for use by publication editors. This arrangement permits editors to read proofs, make changes, etc., without disturbing the working force in the composing room.

Superintendent's Office

In the Production Dept. are housed the superintendent's desk *6*, production control *8*, job ticket racks *8A*, layout

Horace Turner (right) is Manager of the Commercial Printing Div. of the Hollywood (Calif.) *Citizen-News*. Here he is shown conferring with Robert Royden Greer, Printing Engineer.

Floor Plan and Equipment Layout for the Commercial Printing Div. of the Hollywood (Calif.) *Citizen-News*. This layout was prepared by Robert Royden Gear, Printing Engineer of Los Angeles. The building is situated on a plot 130 ft. wide by 104 ft. in depth. To make it easier for the reader to trace the work flow through the plant, the different mechanical departments have been marked off with straight dash lines. The departments are identified as follows:

A—Production Dept.
B—Composing Room
C—Stereotype Dept.
D—Pressroom
E—Bindery
F—Mailing
G—Shipping
H—Stockroom
1—Business Office
2—Sales Office
3—Manager's Office
4—Office men's locker and toilet room
5—Special office for use of publication editors
6—Plant Superintendent's Desk
6A—Composing Room Foreman
6B—Pressroom Foreman
6C—Bindery Foreman
6D—Shipping Desk

Production Dept.:
7—Proofreaders
8—Production Control
8A—Job Ticket Rack
9—Layout Table

Composing Room:
10—Linotype machines
11—Magazine racks
12—Bench with tools and parts
13—Mold liners
14—Lockers
15—Dumping banks (galley storage below)
15A—Galley proof press
16—Rolling makeup tables
17—Elrod strip caster
18—Ludlow caster
18a—Ludlow surfacer
19—Ludlow matrix cabinets
20—Double type cabinets with cut-cost tops
21—Cut cabinets
22—Cut shelves
23—Saw-trimmers
24—Cabinets (100 galleys each)
25—Rotary miterer with strip storage material below
26—Strip leads and slugs
27—Vandercook No. 4 proof press
28—Proof press
29—Makeup cabinet (storage below)
30—Rouse lineup table
31—Time clock
32—Steel makeup table
33—Steel top makeup table (for horizontals)
34—Jumbo furniture cabinet
34A—Horizontal Chase Rack
35—Pre-makeready table with Hacker type high gauge
36—Cylinder press steel top table (51 in. by 76 in.)
37—Register table (22 in. by 28 in.
38—Vertical and job steel top table (51 in. by 76 in.)
38A—Chase racks for verticals (2 deck)
38B—Chase rack for jobbers (2 deck)
39—Cylinder chase rack

Job Printing Dept.:
40—Chandler & Price 12 in. by 18 in. press
41—Chandler & Price 8 in. by 12 in. press
42—Kluge 10 in. by 15 in. press
43—Makeup table
44—Wrapping bench
45—19 in. paper cutter
46—Ticket storage
47—Ink storage
48—Rolling tables
49—Shelving
49A—Job ticket file (5 years)
87—Men's locker and toilet

Pressroom:
6b—Pressroom Foreman
48—Rolling tables
48a—Tables
49—Shelving
50—Miehle Vertical presses
50A—Pressman's Organizing table
51—Miehle Horizontal presses
52—Miehle No. 46 press units
53—Skids or cases
54—Tables on casters
55—Markout booths
56—Stock trucks (loaded)
56A—Pressroom table
57—Ink and oil storage
87 Men's locker and toilet

Bindery:
6C—Bindery Foreman
38—Steel top table
48—Rolling tables
53—Skids or stock trucks (loaded)
58—MM Cleveland folder
59—Baum 22 in. by 28 in. folder
60—Signature trucks
61—Five-station gang stitcher
61A—Table
62—38 in. paper cutter
62A—Cutting table
63—Tables
64—Bindery tables
65—Stitchers
66—36 in. rotary perforator
66A—Special punch press
67—Challenge paper drill
68—Women's locker—toilet
87 Men's locker and toilet

Mailing:
63—Table
69—Elliott Addressing
70—Desk and filing cabinets

Shipping:
6d—Shipping desk
71—Shipping table
72—Floor scales

Stock Room:
62A—Cutting table
62B—50 in.
65—Paper cutter
73—Envelope storage
74—Stock shelves
75—Janitor's supplies
76—Air compressor

Stereotype Dept.:
77—Matrix table
78—Mat roller
79—Mat scorcher
80—Metal furnace (gas-fired)
81—Automatic casting box
82—Saw
83—Radial arm router
84—Plate shaver
85—Bench
86—Drinking fountain
87—Men's locker and toilet

table *9*, and proofreaders' desks *7*. The job ticket racks *8A* are low enough so as not to cut off the superintendent's vision. Clear glass partitions have been installed in front of his desk and at the side above the racks, so as to provide unobstructed vision to every department. This arrangement permits tightening of supervisory control without the taking of unnecessary steps by the superintendent. The superintendent also takes few steps from his desk *6* to the Rouse lineup table *30* for final inspection of any job sheet. In addition, the superintendent is conveniently located for contact by management or sales. From a radial line viewpoint, he is available with minimum walking to any of the production departments.

Composing Room

In the composing room, B, the foreman's desk is located at *6A*, adjacent to form makeup. Work travels in the composing room probably in as nearly a straight line as it is possible to arrange, particularly considering the floor area available. Arrangement of the four Linotypes *10* with magazine racks *11* opposite the keyboards provides minimum lift-travel when changing magazines. Not much greater floor space is needed to arrange the machines in angular position. Advantages secures in this instance are: (1) Avoidance of daylight striking the operators' eyes, (2) more privacy for operators, (3) greater machine accessibility, and (4) shorter distance to carry slugs to dump banks at *15*. If necessary, another machine can be installed in the future, by arranging the machines in a parallel line, although the operating advantages gained by the present position would be nullified. Other advantages will be apparent upon studying the accompanying floor plan layout. There is room for hundreds of galleys under the banks *15*, by the printers working at work tops *20*. Galley proof press is indicated at *15A*, the No. 4 Vandercook proof press at *27*, is placed centrally; three galley racks are close by to take care of any type publication having many changes and many proofs. Ludlow equipment is placed compactly at *18*, *18A* and *19*.

The cut cabinets *21* near the Ludlow machine *18* permits the tops of the cabinets *21* to be used for temporary placing of slugs, or galleys for Ludlow slugs to be inserted as cast.

Saw-trimmers are placed at *23* and the Rouse rotary mitering machine *25*, placed on a strip rule storage cabinet is as nearly convenient as possible to those using the machine.

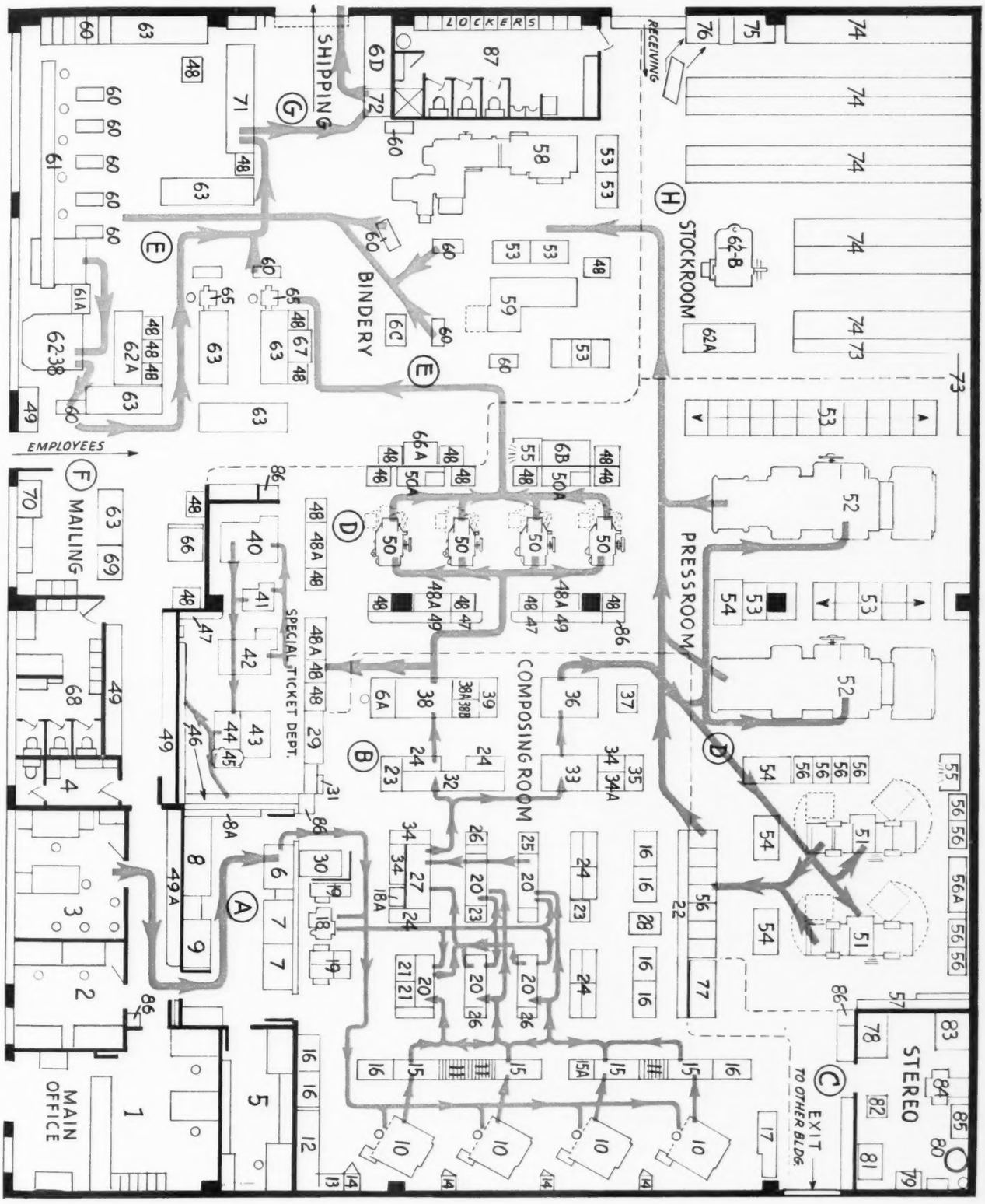
The galley cabinets *24* and *24* are placed in two groups of four cabinets each. A $\frac{3}{16}$ in. thick steel plate has been placed on top of each group of four cabinets to provide makeup room for cylinder forms requiring weekly changes. In this way, the good imposing tables are not tied up. The steel plates placed over the galley cabinets are not intended to be used for locking up forms, but rather to avoid taking up space on the regular imposing tables.

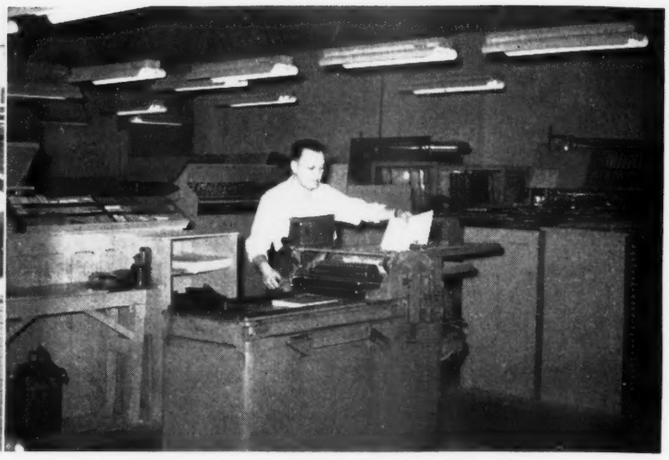
The rolling makeup tables are indicated at *16* in the line-composing ma-

chine section and the hand section. Each of these tables is a special unit with makeup area on top and space below for holding galleys. The makeup tables are mounted on casters to permit moving into any position when needed. All material, such as composition, type, cuts, etc., for a publication are segregated in a rolling table so that makeup of a publication will be most rapid and complete.

In many commercial plants, especially those in which publication work is done, engravings and electros accumulate quickly. Many of these cuts are used for re-run purposes and/or repeat advertisements. The shelves at *22* permit storage of a large quantity of cuts and/or plates. The shelves also serve as a dividing wall between the composing and pressrooms.

Now we come to the imposing table or lockup section of the composing room. Production has flowed from the line-composing machines, through the make-up or assembly section to the imposing tables in a straight line. In this section, a change of production flow will take place. The imposing tables constitute the





In the left view is shown the hand assembly section of Composing Room, B, in the accompanying equipment and floor plan diagram. View is from mitering machine *25* in the diagram looking toward Linotype machines *10*. As in the balance of the plant, aisle widths are ample. In the right view, a No. 4 Vandercook Proof Press is shown in the hand section of the composing room.

connecting link between the composing and pressrooms. The tables compose the hub of distribution with production flow radiating to jobber, Vertical or cylinder press sections of the pressroom. The composing room foreman at *6A* is in immediate proximity to the imposing section and thus is in a position to supervise the task of getting the right form or forms to the pressroom on schedule.

The cylinder press steel table *36*, with 51 in. by 76 in. top, is used for imposing and locking forms for the cylinder presses, *52*. This table is kept clear on all four sides by aisleways to facilitate handling heavy forms. The steel top makeup table *33* is used for locking forms for the Miehle Horizontal presses *51*. The steel top table *38* is used for locking up forms for the Verticals *50* and/or the jobbers *40*, *41* and *42* in the pressroom.

At *38A* is indicated the two-deck chase rack for the Vertical presses; at *38B* is the two-deck chase rack for the jobbers; at *39* is the cylinder press chase rack. At *34A* is the Horizontal press chase rack.

Convenient to the pressroom is the 22 in. by 28 in. register table shown at *37*.

Also convenient to both composing room and pressroom is the pre-make-ready table *35* with Hacker type high gauge.

The Jumbo furniture cabinet is indicated at *34*, resting on top of Horizontal press chase rack.

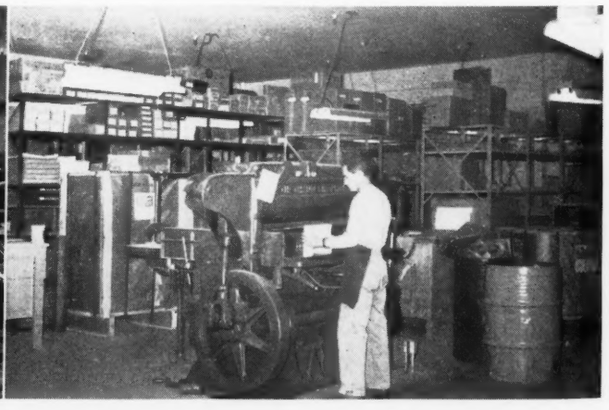
As has been mentioned previously, at *30* is shown the Rouse lineup table.

The Pressroom

In this particular equipment layout, the pressroom area D practically surrounds the composing room area B on three sides. In this instance, the layout is entirely practicable. Forms from the imposition section of the composing room are delivered to each section of the pressroom in radial line fashion, as has been explained in the composing room discussion, to platen press, Vertical or cylinder press sections as indicated.

As is the case with the desk position of the composing room foreman at *6A*, between the composing imposition and pressroom departments, the pressroom foreman's desk at *6B* is situated strategically midway between the pressroom sections and immediately adjacent to the folding machine section of the bindery.

It will also be noticed that spaces have been allotted for what are called Rolling Tables (designated by *48*) in various parts of the Vertical and jobber sections of the pressroom. We are calling your attention to these rolling tables because of their mobility in transporting white stock in 500 lb. quantities to and from the Vertical presses and the jobbers. These rolling tables really constitute the nearest approach in the commercial printing industry to the moving production line as employed universally in the automotive industry. These rolling tables, mounted on rubber-covered wheels, are fitted with a top measuring 24 in. by 32 in., and are of uniform height to correspond with the height of all other tables in the plant. Two or more of the rolling tables can be butted to make a continuous work or storage top for temporary work purposes. One modification of the storage space beneath the table top is to supply plywood board shelves of a size which can be slid out to fit the Vertical press feeder and delivery. One table can be utilized to take a load behind the press



General view in Bindery Dept., E, of the Commercial Printing Div., Hollywood (Calif.) *Citizen-News*. At right is shown part of MM Cleveland Folder; at left, part of a Baum 22 in. by 28 in. folding machine; respectively, these are designated as *58* and *59* in the accompanying equipment layout diagram. Five of the three-deck bindery signature trucks of Mr. Greer's design are lined up in a row at right of center in this picture. These are indicated in the accompanying work flow diagram by the figures *60*. A Rosback five-sta. gang stitcher is visible at the far (front) end of the room immediately next to the windows.

while another is taking on a load from the press to be rolled to the bindery or the shipping department.

In the Vertical section of the pressroom, there is a Pressman's organizing table, *50A*, alongside each pair of Vertical presses. These tables are supplied with 24 in. by 60 in. tops. On the top surface at one corner is a steel imposing slab measuring 18 in. by 24 in. set flush with the table top to provide an all over continuous surface. These imposing slabs permit the pressman to handle the forms right from the Vertical without the necessity for carrying them to the composing room imposing tables for form changes. Since introduction of these tables, experience shows that pressmen appreciate having a centralized work top where form changes can be made, and in addition, the table is fitted for holding rollers, top sheeting and press packing, French folio, gasoline and wipers, and various tools and accessories.
(Editor's Note: The Pressman's Organizing Table was illustrated and described in the October 1948 issue of *Printing Equipment Engineer*).

In the cylinder press section of the pressroom, the Horizontal presses *51* are spaced far enough apart so that flat, low steel trucks (25 in. by 38 in.) equipped with roller-bearing casters can be rolled against the wall space as at *56*. These trucks are loaded with white stock especially for the Miehle Horizontals.

Loaded skids or stock trucks *53* are arranged alongside the two No. 46 Miehle Units. In the floor plan diagram it will be noted that ample aisleways have been provided between the working areas of the presses. These aisles range from 4 ft. to 5 ft. in width.

Another provision for mobile equipment consists of the pressroom tables *54* which are mounted on casters. They can be moved readily from position for the moment when a skid of paper is to be transported into one of the aisle areas. Another prime consideration in this arrangement is that when doing color work it is wise to have plenty of room in which to season skids of stock to room humidity and temperature.

The Bindery

The bindery foreman, as is the case with the foremen of the other mechanical departments, has his desk situated immediately adjacent to the contributing department (in this case the pressroom) as well as being in a position where he can readily supervise all bindery operations.

Since ample floor space is required in bindery work for movement of work in process, it will be seen that the aisles are generous in width. For instance, when sheets are received from the pressroom on low steel trucks *53*, they can be grouped about the feeder end of the folders *58* and *59*. Likewise, the folded signature trucks *60* are placed opposite the delivery end of the folders. If the "intake" of the stitching or stapling machines isn't sufficient to empty the signature trucks, they may be grouped temporarily in the horizontal aisle. (The signature truck *60* was illustrated and described in the April 1949 issue of *Printing Equipment Engineer*). As the publications or booklets are finished by the Rosback stitcher, they are passed along to the cutter *62*. After being trimmed, the work is stacked on tables *63*, and then to shipping table *71* by means of rolling tables *48*.

Receiving and Shipping

The loading dock opposite Receiving and Shipping in the accompanying floor plan diagram was built at much expense to speed deliveries of heavy loads of paper and machinery. The terrain is such that the dock could be built level with the bed of a truck—43 in. If other plants can use this idea if the terrain pitch permits or if it is feasible to build the first floor level high enough to allow a 43 in. loading dock, to be level with truck beds and at the same time level with floor working area. For heavy handling of paper stock rolls and skids the idea has merit.

While the paper stock flow is not indicated by red lines in the accompanying diagram, yet readers of *Printing Equipment Engineer* will notice that the white stock is transported into Stockroom *H*, goes through Cutter *62B*, is loaded onto Rolling Tables *48*, or Low Trucks *56*. It is then taken to one of the three sections of the pressroom *D*. From the pressroom it goes to the bindery *E*, then through Shipping department *G*.

Time Clock

The time clock *31* is located near the plant superintendent's desk *6*. The reasons for locating the time clock in this area are (1) The superintendent or the office staff can refer to any card by taking only a few steps, and (2) The location increases punctuality because an employee will not know when he is being observed while punching in or out.

Other Features

The writer could spend considerable time describing other features in the production department of the Commercial Printing Div. of the Hollywood *Citizen-News*. The main objective in this article, however, is to discuss the workflow through the plant. We'll let it go at that, hoping that some of the ideas will be useful to you in your plant.

Printing Week
JANUARY 15-21 1950

Pagett Wins Craftsmen's Stamp Contest

TOP winner in the Intl. Craftsmen's Printing Week Stamp Contest is Glenn M. Pagett. The design selected for first honor from among 42 entries, is shown in an accompanying illustration. Mr. Pagett is Plant Superintendent and Layout Man for Typographic Service Co., Indianapolis, Ind. He served the Indianapolis Club for five years as Secretary and in 1942 was President. He is a contributor to the *Inland Printer* and is a member of the Typocrafters—a midwestern group of typographic designers. He is 46 years of age. He has been with Arthur Overbay of Typographic Service since 1927.

The award to Mr. Pagett will be a cup, inscribed to denote possession. The next nine awards will be Honorable Mention Certificates. All awards will be presented to the winners at the Intl. Craftsmen's convention in San Francisco, in September. (Convention dates are Sept. 4-7.

Mr. Pagett's design will be used by the Intl. Association of Printing House Craftsmen on the official poster stamp for the 1950 observance of Printing Week to be held by affiliated clubs during the week of January 15 to 21, 1950.

All designs will be on display during the San Francisco Craftsmen's convention at the Palace Hotel.

In order of selected merit, the winners are: (1) Mr. Pagett; (2) Frank Persell, Indianapolis; (3) Hiromu Maehara, Honolulu, Hawaii; (4) Gene Rice, Chicago; (5) Paul Hughes, Baltimore; (6) Glenn Pagett, Indianapolis; (7) Wm. H. Berger, Columbus; (8) Edward R. Ahrens jr., Buffalo; (9) Robert Darby, Ottawa, Canada; (10) Frank Persell, Indianapolis.

The judging committee consisted of three men, as follows: Ernest F. Trotter, Editor, *Printing*; Kurt H. Volk, President, Kurt H. Volk, Inc., New York; Harvey Glover, President, Sweeney Lithograph Co., Bellville, N. J.

Glenn M. Pagett, Superintendent and Layout Man for Typographic Service Co., Indianapolis, Ind., is winner of the Poster Stamp Design Contest sponsored by the Intl. Association of Printing House Craftsmen.

Cylinder and Rotary Web Presses

Pitch Line
Packing Height
Bearer Height
Form Height
Plate Thickness

By R. P. WILLARD

OF THE many points on a printing press where attention to detail is well repaid, probably none are more important than those of proper packing height, plate thickness, and bearer contact. This holds true, whether a cylinder press or a rotary web machine is under consideration.

It is the writer's purpose to discuss some of the reasons why it is important that a press be correctly packed, and to point out some of the difficulties which arise when the manufacturers' recommendations as to packing are not adhered to. Unless otherwise stated, we will confine ourselves to a consideration of letterpress printing from metal plates, on either web rotary presses or cylinder presses.

For the sake of simplicity, it will be best to think of our plates as being of a uniform thickness. The fact that it may be desirable to apply more make-ready on the solids, and less on the open work is of no particular concern as far as the present analysis is concerned.

The basic function of the printing press is to transfer ink from the surface of the plate to the surface of the sheet of paper in such a way that the detail of the plate is faithfully reproduced in every respect.

True Rolling Action

To do this successfully, it is essential that the surface of the plate *roll* over the surface of the paper. Unless a true rolling action takes place, there will be sliding or scuffing of the plate against the paper. This scuffing action has two undesirable results. It wears the plate, and it gives a smeared print on the sheet, rather than a true copy. When a press manufacturer advises the use of a specific plate height and packing thickness, he does so because he has calculated that these specifications will result in the nearest approach to a true rolling action of the sheet over the plate.

Rotary Web Press

In *Fig 1A* is illustrated a rotary web press printing unit, consisting of a plate and impression cylinder. As an example, the diameter of the plate cylinder over the outside of the plate may be 7.003 in. This will result in a plate circumference of 22 in. Forgetting for the moment that squeeze is needed for printing, it is apparent that each revolution of the plate must be matched by a feed of exactly 22 in. of paper if true rolling contact is to be secured. In this case, the outside diameter of the impression cylinder including the paper being printed should also be exactly 7.003 in., and the plate and impression cylinders will revolve exactly one to one.

Cylinder Press

In the case of a cylinder press, *Fig. 1B*, we have just the same condition, only in this instance, a movement of 22 in. of the bed must be synchronized with a movement of exactly 22 in. of motion of the paper carried on the surface of the impression cylinder.

We often hear it said that printing should take place on the pitch line of the gears. This is merely another way of saying that plate and paper speeds must match. For example, in *Fig. 1A*, are shown a plate and impression cylinder rolling together. If we should put a solid plate on the plate cylinder, and use it to drive the impression cylinder with no gears, the two would probably run in unison for quite some time. Sooner or later however, they would become "out of time," the overlay on the impression cylinder would no longer match the plate, and our printing would be unsatisfactory.

Function of Gears

In order to guarantee that the printing cylinders shall always run "in time" gears are applied to each cylinder. The pitch line of the gears, or pitch circle, is the circle corresponding to a smooth disc which would transmit the same relative motion by friction. We know from experience that friction discs will not stay in time with each other. However, by putting projections on these friction discs which will interact with each other, we can keep the discs turning in some predetermined relationship. Gears are nothing more than friction discs with scientifically designed projections to prevent their slipping on each other. The pitch line of these gears is merely the pitch diameter multiplied by 3.1416.

Gear Pitch Line

In other words, in our case, the pitch line of each gear is a circle 7.003 in. diam., just the same diameter as our plate and impression cylinders. It is apparent then, that with our plate and impression cylinders, as well as their gears, all of 7.003 in working diam., a true rolling action will result. The gearing and the printing couple are working in harmony.

Let us consider what would happen if we should put on a plate which was 0.010 in. too thin. There are two ways to compensate for this condition. The correct method is to bring the plate up to the proper height. The wrong solution is to overpack the impression cylinder.

If our plate is 0.010 in. too thin, the outside diameter of the plate cylinder will be 6.983 in. instead of 7.003 in. and by the time we have added 0.020 in. to the diameter of the impression cylinder in order that it may meet the plate cylinder, that cylinder will be 7.023 in. diam. In other words, the circumference of the plate cylinder will be 21.937 in. and that of the impression cylinder 22.063 in., a difference of 0.126 in. or approx. $\frac{1}{8}$ in.

If it were not for the fact that the cylinders are geared together one to one, there is no reason why a 6.983 in. diam. plate should not roll smoothly in contact with a 7.023 in. diam. impression cylinder in a ratio 1 to 1.005. Unfortunately, in actual practice they are geared and the gears will force the cylinders to revolve in a one to one ratio. In this case, the approximately $\frac{1}{8}$ in. difference in cylinder circumferences can only be com-

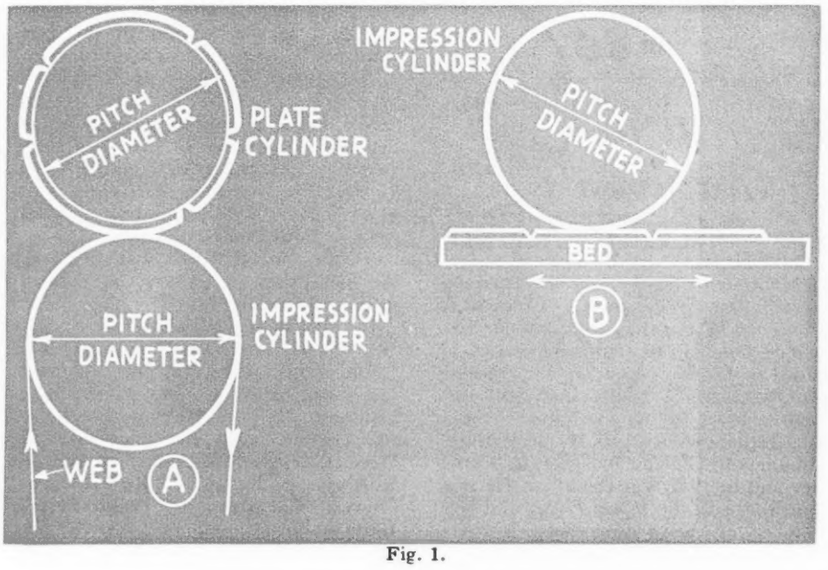


Fig. 1.

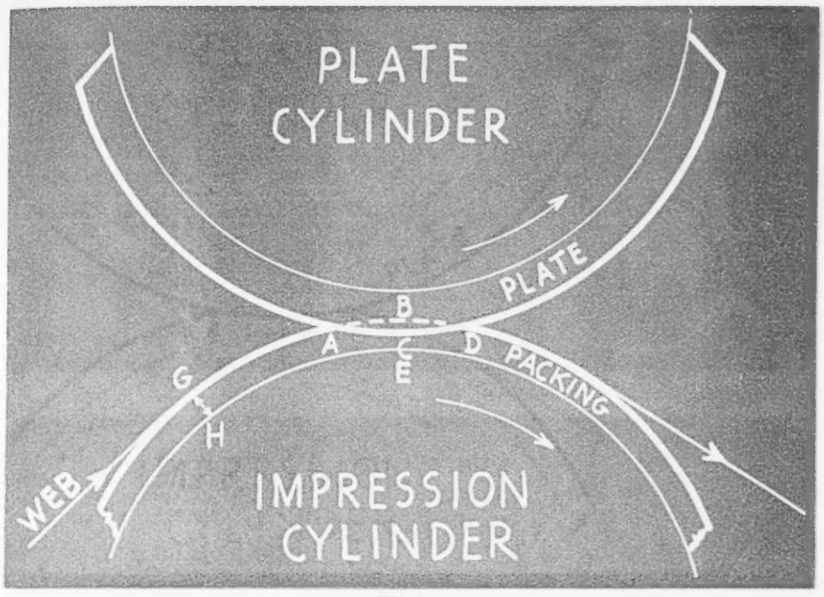


Fig. 2.

pensated for by a sliding or scuffing of the plate over the surface of the sheet being printed. Actually, the paper will travel $\frac{1}{8}$ in. further than the surface of the plates in each revolution. If the error in plate thickness is only 0.005 in. the scuffing will, of course, be only about one sixteenth of an inch, still a considerable amount.

As a matter of fact, it is extremely simple to calculate the amount of scuff or slip due to either oversize or small cylinders. On any plate or impression cylinder, of any diameter, each 0.001 in. error in plate thickness will produce approximately 0.012 in. of scuff or drag of the plate on the paper per revolution if a rotary press is being considered; and 0.006 in. on a cylinder press. This is assuming, of course, that the press is operated with the bearers in contact as they should be, and a constant impression pressure.

Undesirable Effects

Incidentally, on a web-fed press, overpacking of the impression cylinder may have an undesirable effect on the feed of the web. The excessive pull caused by overpacking leads to web breakage, incorrect sheet lengths, or a slack web after it leaves the printing unit. Underpacking, on the other hand, is just as serious, as it creates the same problems only at different points in the press.

The undesirable effects of improper plate thickness are not confined to difficulties with the web, and with scuffed printing. As noted previously, the circumference of the thin plate was about $\frac{1}{16}$ in. less than it should have been. This difference will result in scuffing or loss of true rolling action between the ink form rollers and the plate. The ink form rollers are normally driven by the vibrator drums at a speed equal to that of a plate of the proper thickness. The use of any other thickness of plate can only result in a slipping action between the form rollers and the plate. The worst effect of this action is, of course, a one-sided inking of the plate, which is detrimental to quality work.

Errors of Slippage

Thus we see that considerable care must be used in compensating for plates of incorrect thickness, as well as in packing a press in the first place. If a plate is thin, it is not sufficient to merely make up the difference at any place; it must be made up under the plate itself. The same situation is true of a thick plate. The easy way in this case may appear to be effected by removing some of the impression cylinder packing, but it is not the correct way.

In the case of a cylinder press, a slightly different condition exists. Here the bed does not involve about a center as does a rotary plate cylinder, but rather it has a reciprocating motion. If the plate is high or low on one of these machines, it still travels the same distance with each impression. However, the impression cylinder circumference does vary as it is built up or decreased to compensate for high or low forms, and an error is introduced at this point just the same as on the rotary impression cylinder. This error or slippage will be about half what it would be on a rotary press, and is still something to take into consideration where quality work is desired.

Pressure Without Slur

Printing has been defined as pressure without slur, which is dependent upon the correct contact between the printing surface and the stock to be printed. This contact has but one dimension (in theory), a line, so that printing is a continuous succession of lines of contact between cylinder and bed around the cylinder. In practice this contact line broadens into a surface, the width of which varies with the squeeze necessary to transfer the ink from the form to the stock according to its surface and roughness. Squeeze is actually a distortion of materials and the closest approach to ideal conditions is in the minimum squeeze, commonly termed the kiss impression.

The cylinder press is engineered from the type high form. The pitch lines of all gears and racks driving the bed and cylinder are held to close limits. The height of the bed bearers, which is the printing line or pitch line of the bed and cylinder gearing, ranges from 0.916 in. to 0.918 in. on different makes of cylinder presses. The diameter of cylinder bearers is held correct to within 0.0005 in.

The Undercut

The cylinders on different makes of presses are undercut from 0.057 in. to 0.070 in. The depth of the undercut determines the thickness of the packing which, including the sheet being printed, should be even with the cylinder bearers, under impression.

Cylinder Pull-down

If cylinder bearers are not down on the bed bearers on impression with a heavy form on the press, the cylinder is pulled down by means of the cylinder impression rods until the cylinder bearers pinch tissue on the bed bearers on impression. The extent of the pull-down varies with different makes and sizes of presses and the condition of the press.

It is customary to start a new press with moderate cylinder-on-bearer pressure and after the press has been run in for a few months, the cylinder is pulled down harder on the bearers. Afterwards the set of the cylinder should be checked at least as often as every six months.

Overpacking the cylinder and underlaying the form to more than type height are incorrect ways of getting squeeze as the bed and cylinder contacts are thus forced out of their pitch line.

Cylinder Press Register Rack

Flatbed cylinder presses are provided with a register rack on the bed and a corresponding register segment on the cylinder to synchronize the travel of bed and cylinder just before impression. Various factors, too numerous to mention here, may accelerate or decelerate the travel of bed and cylinder between impressions. In addition, the cylinder is loose in gear when the bed is on the return stroke.

The rack and segment place the cylinder and the bed, when the bed is rolling to print and the cylinder descending so that they are in their correct relative positions before the bearers roll on. After a few inches of travel of the bed and cylinder, the cylinder gear sector and the bed rack segment move out of mesh and the cylinder is then held in register with the bed by frictional contact between the hardened and ground steel cylinder bearers and bed bearers.

Testing Register

Before starting a close register job on both single and two-color presses, not recently tested for register, it is well to put

an open-spaced rule form on the press and test register by means of successive impressions at various speeds on the drawsheet. If the impressions do not register, the most likely needed adjustment on a press in good condition is that of the register rack and segment.

What Occurs on Impression?

There are several portions of the printing process which almost invariably lead to discussion and difference of opinion. One of these points is the question as to what actually takes place when the impression is applied on a rotary printing press. As a matter of fact, so many elements enter into the situation such as the nature of the plates, type of packing, and thickness of packing, that it is difficult to arrive at any hard and fast rule as to the action in spite of the many theories.

In Fig. 2 are illustrated a rotary plate and an impression cylinder, both of equal size. If the impression is thrown off, it is apparent that the surface of the impression cylinder would follow the arc *A-B-D*; and that one revolution of the plate cylinder would have a surface travel exactly equal to the amount the paper was fed in one revolution of the impression cylinder.

Now let us apply the impression, and force the plate cylinder into the impression cylinder along the arc *A-C-D*. It is apparent that the length of paper wrap around the impression cylinder is unchanged, because arc *A-C-D* is equal to *A-B-D*. It is also apparent that if there is to be no slipping of the paper on the plate cylinder, that point *C* must be revolving just as fast as point *B* used to when the impression was off.

At this point the argument may be brought up, that *C* cannot travel as fast as *B*, because it is nearer to the center of the impression cylinder, and a point closer to the center of a cylinder does not travel as fast as one on the outside.

There are, however, people who claim that although *C* is closer to the center of the impression cylinder than *B* was before the squeeze was applied, nevertheless, it is traveling with about the same speed. Their contention is based on the fact that the thickness of the packing and web is decreased from the dimension *G-H* before the impression is applied to *C-E* at the point of impression. In this case, the packing and web must travel at an increased velocity to allow a given volume to pass through the restricted opening *C-E*. The principle, of course, being the same as that which causes a river to rush faster through a narrow gorge than across an open plain.

Adhere to Manufacturer's Figures

The reader can readily appreciate the fact that this is a complex problem, which cannot, as was mentioned before, be answered by any one hard and fast rule. Different press manufacturers subscribe to different theories as to what actually does take place at the point of impression. It is this variance in opinion that has resulted in different bearer heights, and packing recommendations on presses as built by different manufacturers. It is not safe to assume that on all presses the bearers should be level with the top of the plate, or that the impression is entirely secured by packing the impression cylinder over the bearers. Rather, the operator should make sure what the manufacturer had in mind when he designed the machine, and adhere to the manufacturer's figures.

In any event, it is apparent that if a true rolling action is obtained when the cylinders just barely touch, with no actual impression, that we cannot hope to improve on this ideal condition by squeeze. Therefore, the pressman should take care to print with as little impression as is necessary for first class work. Excessive pressure is hard on the press, the plate, and the paper being printed.

It is interesting to note that the cylinder press operator has somewhat more leeway as far as the need for holding to a strict packing thickness is concerned.

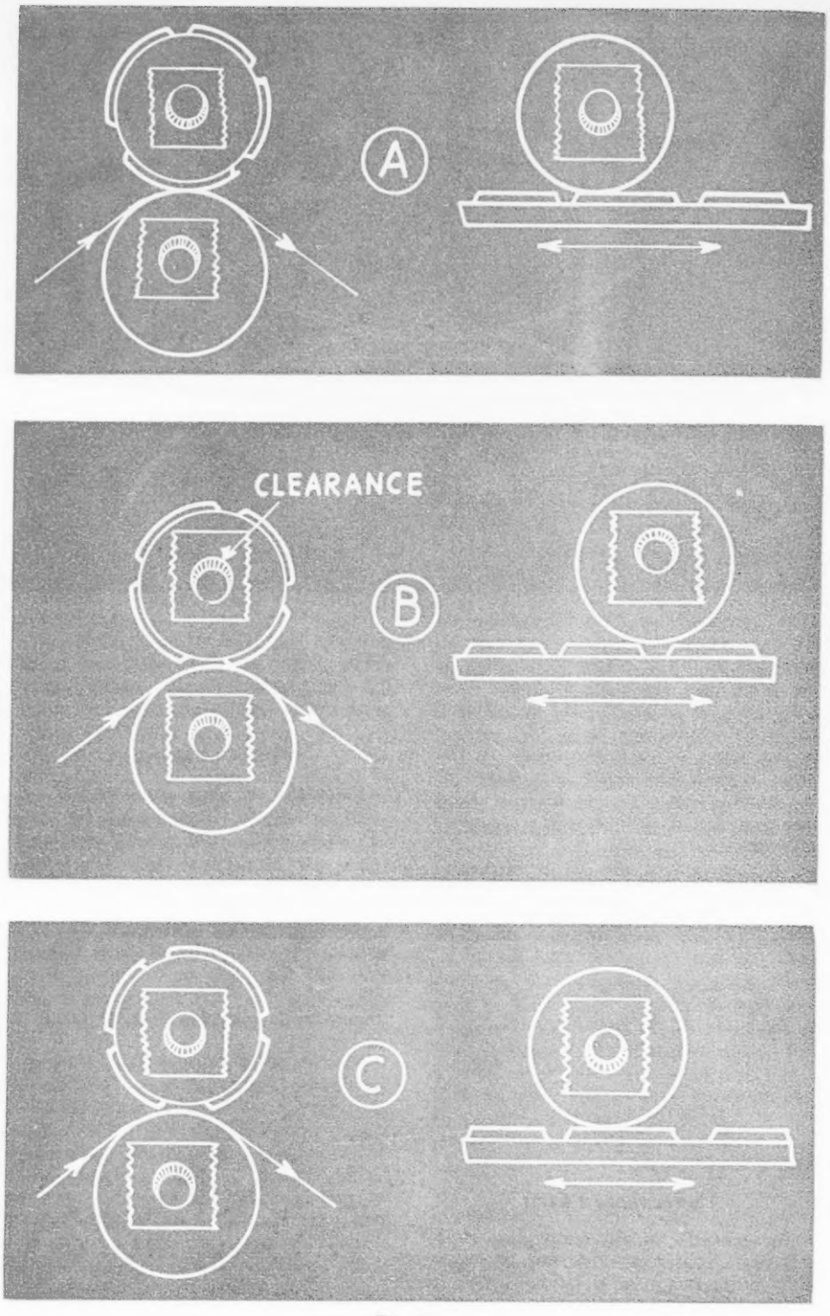


Fig. 3.

Rotary Press Units Must Be Synchronized

On a web press, the printing unit is generally only one of several units in the machine, and the speed of this unit must be synchronized to that of the other units. A variation from this speed is an impediment to the correct functioning of the remainder of the units.

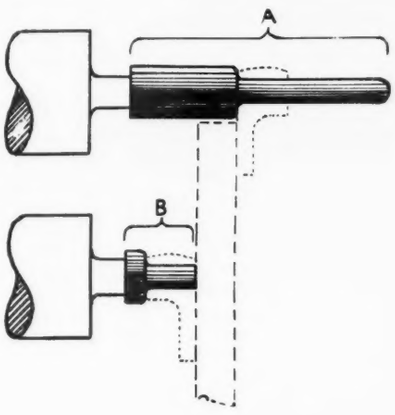
(*Continued on Page 93*)

EQUIPMENT & SUPPLIES

Additional information concerning Equipment and Supply items and technical literature may be obtained by addressing your request to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Alico Adaptor for Press Rollers

ALICO, Inc. has announced development of an adaptor for existing newspaper press form and inking rollers. By using the adaptor, all form and inking roller sockets on all types of presses now using bronze or white metal



bushings can be converted into ball bearing anti-friction self-aligning bearings.

The existing form or inking rollers are used with the Alico Adaptors, but are altered in a local machine shop to permit attachment of the self-aligning ball bearings.

As is indicated in the accompanying diagram, the present bushings are removed from the original sockets and the Alico Adaptor is clamped tightly in the socket. At *A* in the diagram is shown the Alico Adaptor for sockets attached outside the press frame. At *B* is shown the Alico Adaptor for sockets attached to the inside of the press frame. Although not shown in the diagram, a Zerke fitting is supplied in the outer end of each Adaptor.

Intertype Booklet

HOW to select type faces and how to make better use of machine faces is discussed in a booklet recently released by Intertype Corporation. The text covers such points as the feel of type faces, individual traits of type families, combining type faces, choice of a type face, and use of ornamentation. Twenty exhibit pages of various types set in their respective faces contain a history, description and differences of each face. Measuring 5½ in. by 8 in. and containing 40 pages, the booklet is titled *How to Select Type Faces*. Title page is printed in two colors.

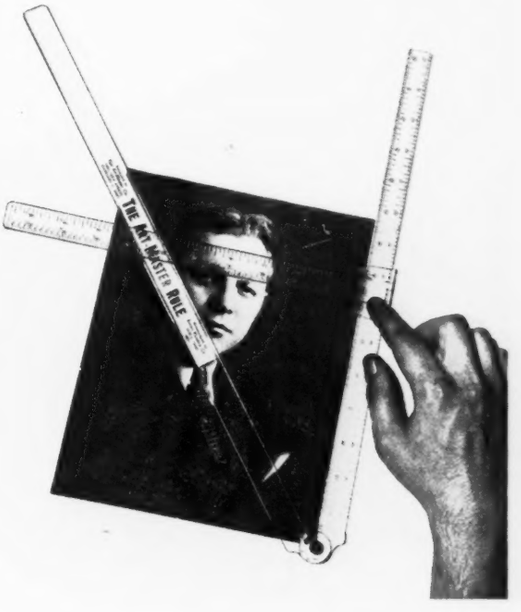
Art-Master Rule

ANNOUNCEMENT has been made by The Art-Master Co. of the Art-Master Rule, an instrument designed for determining the enlarged and/or reduced width and depth of copy, such as photographs, drawings, proofs, etc. Of use to production men, photoengravers, layout men, artists, copy men, estimators, offset-lithographers, editors and in the ad alley, the rule is supplied with two scales for obtaining proportional enlargements or reductions in either picas or inches.

Constructed of clear plastic with colored figures and graduations, the instrument consists of a vertical, horizontal and angle bars. The vertical bar can accommodate copy from 1⅞ in. up to and including 15 in. length. The horizontal bar can accommodate copy from 1 in. to 10½ in. in width, or on the pica scale, from 6 picas to 63 picas. On both vertical and horizontal bars measurements are given on the outer edge in eighths of an inch and on the inner edge in picas and half-picas.

In use, the hole in the swivel joint of the vertical bar is placed over the lower right-hand corner of the copy. The diagonal bar, which acts as a straight edge, is swung to the upper left-hand corner and the horizontal bar is moved to the desired width. The reading is taken from one of two red marks on the stock of the horizontal bar depending upon whether a reading in picas or inches is desired.

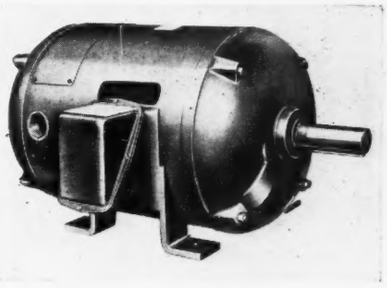
Sponsor states that in the case of a small space where a drawing is required, the space can be scaled upwardly by means of this instrument to find the proportionally enlarged area which will reduce to proper size in the engraving as required.



The Art-Master Co. has announced the Art-Master Rule for determining the enlarged and/or reduced width and depth of photographs, drawings, proofs, etc. Art-Master Co., exclusive distributors; Berea Plastics Co., manufacturers.

Protected Motor

THE Crocker-Wheeler Electric Mfg. Co., Div. of Joshua Hendy Corp., has announced the Form BW protected wound-rotor motor, suitable for driving printing presses and other machinery. The motor is built in NEMA



Protected type, wound-rotor motor announced by Crocker-Wheeler Mfg. Co., Div. of Joshua Hendy Corp.

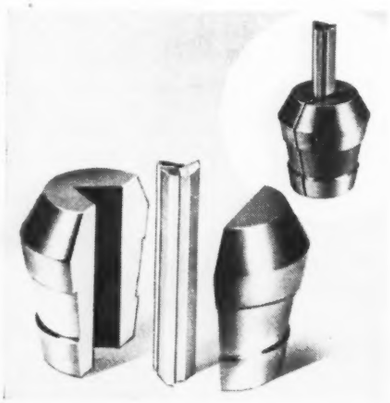
frames 224-505 in ratings up to 100 h.p., and in larger frames up to 2000 h.p.

Frames and end shields are drip-proof. Available also with splash proof and totally enclosed, non-ventilated features. Mechanical modifications include NEMA floor, sidewall and ceiling mounting assemblies. NEMA C face and D flanges mountings are available for horizontal or vertical operation, with or without feet. Sponsor states these motors are designed for high starting torque with low starting current and variable speed.

Triple-Life Router Bit

THE Triple-Life Kennametal router bit, made of Kennametal, has been developed by Kennametal, Inc.

The bit is provided with three cutting edges, but it is eccentrically-clamped in the routing machine chuck by means of collet pads so that only one edge is operative at a time. When this becomes dull, the bit is turned so that another edge comes into cutting position. In this manner three "indexes" can be made before any sharpening is required.



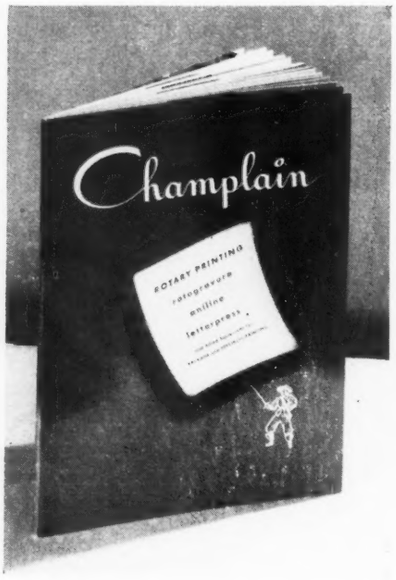
Kennametal Router Bit is provided with three cutting edges. When an edge is dull, the bit is turned so a new cutting edge comes into position. Collet pads are available which are suitable for mounting in routing machine chucks such as Onsrud and Edstrom-Carlson. Pads for other machines available. Sharpening of bits should be done by maintenance men.

The Kennamatic router bit is made in five sizes with cutting diameters of ¼ in., 5/16 in., 3/8 in., 7/16 in., and ½ in. It can be used in the most common types of routing machines in conjunction with suitable collet pads. It was designed for routing soft and hard woods, plywood, the various types of fiber board, and both hard and soft plastics, as well as type metal. If routing conditions require a starting hole, the bit can be used as a drill.

Champlain Catalog

A CATALOG has been prepared by the Champlain Company, Bloomfield, N. J., for the printing and packaging industries. In it is presented a summary of the company's rotary printing and inline fabricating processes and equipment. The colorful 42-page book, divided into four sections, is beautifully illustrated. The book measures 8½ in. by 11 in.

In Section One is featured Champlain's Speedry rotogravure press. Presented is a diagrammed explanation of the Weiss Speedry fully-enclosed ink fountain. Described are the 360 deg. running register control, which is operated either by electric push-button or by automatic electric eye control; standard Champlain warm-air-recirculator dryer; and constant-tension system. Complete mechanical specifications are given on Champlain's heavy-duty Aniline-Anilox press, which can be used in conjunction with rotogravure and letterpress color units.



In Section Two is covered the company's line of delivery and inline fabricating equipment. Complete descriptions of single-roll rewind, multiple-roll delivery units, and of staggered roll rewind units are presented. Also described are Champlain's all-size sheeters, as well as each kind of punching equipment for inline fabricating. Champlain's line of stacker delivery, embossing, perforating, scoring, and hot-melt applicator units are also discussed.

The company's Strobolux register check permits watching register conditions on the moving web; electronic Registron units automatically detect and correct imperfect register, and of the plug-in registron circuit tester are analyzed in Section Three.

Section Four is devoted to descriptions of some of the many types of specially-designed printing equipment Champlain has developed.

Copies of the manual are available to members of the printing and packaging industry who request them on their own letterheads. Address all inquiries to the Champlain Company, Inc., 88 Llewellyn Ave., Bloomfield, N. J.

Korfund Bulletin ER-701

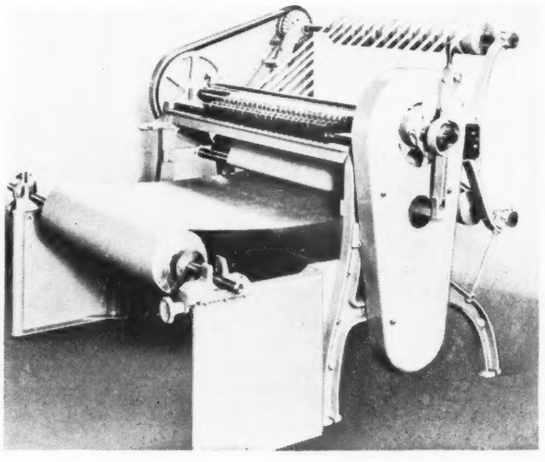
FOR the majority of applications, Elasto-Rib, a cork and rubber mounting requires no bolting or cementing. This material for controlling transmission of vibration and noise is described in a bulletin released by the Korfund Co., Inc. Manufacturer states greatest efficiency is obtained in the recommended loading range of 750 to 5000 lbs. per sq. ft. Methods of installation are described and illustrated. The material is available in sheets 24 in. by 36 in. or can be had cut to size and shape as required. Three types of damper are also described, all of which make use of Elasto-Rib's properties. Loading range runs from less than 40 lbs. per unit to more than 1250 lbs. Ask for Bulletin ER-701.

Slitter and Rewinder

ANNOUNCEMENT has been made by Hobbs Mfg. Co. of the Jacques Slitter and Rewinder for handling a variety of papers, boards, fabrics, plastics and foils. Available in three sizes, 30 in., 40 in. and 45 in., the machine features a hardened steel slitting roll, alloy steel slitter blades, anti-friction bearings, and heavy duty frictions.

Sponsor states that each cutter is individually mounted, demounted or adjusted, without disturbing other cutters on the cutter bar. Two heavy rewind arms, cast in one piece, are designed to take care of rewinds up to 24 in. diam-Manufacturer claims the Koolvent frictions and Safti-Set adjustment enable friction adjustment without stopping the machine. Micrometer adjustments are made while machine is in operation.

The parent roll stand is designed to carry rolls up to 40 in. diam. Unwind shaft is 1¼ in. rnd. steel bar, resting in cast iron bearings. Provision is included for forward, backward and endwise adjustment of the unwind roll. Pressure rolls are provided to help feed the material through the slitting cutters, and maintain necessary friction between the main slitting roll and the material.



Jacques Slitter and Rewinder announced by Hobbs Mfg. Co. for handling a variety of papers, boards, fabrics, plastics and foils. Made in 30 in., 40 in. and 45 in. sizes.

Aluminum Paste

A NEW aluminum paste, free of mineral spirits and compatible with commonly used oils, resins and solvents, is being offered paint and printing ink formulators by the Meta-Paste Products, Inc.

The paste, it is claimed, results in unusually brilliant and durable pigmentation. It also aids in film forming, he said, and allows the use of shorter oils.

The pigment, Dev. Gearhart, sales manager, said, is dispersed in modified Aroclors, Monsanto Chemical Co.'s chlorinated biphenyls, which impart desirable properties to surface coatings. Aroclors also give fungistatic properties to the paint. Because Meta-Paste contains no mineral spirits, it is said to be especially suitable for use with vinyl polymers, synthetic and chlorinated rubber. It is prepared in both aluminum and gold pastes, non-tarnishing and non-discoloring, for use in printers ink. Additional data and samples are available.

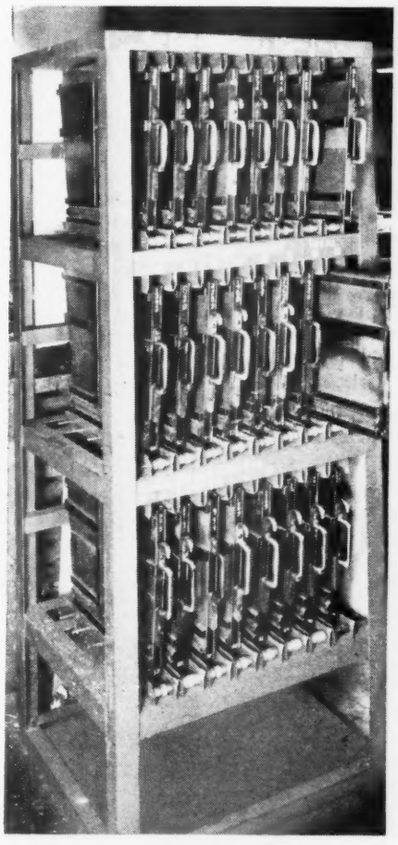
Visual Oilers Bulletin

ATTRACTIVELY printed in yellow and black is an 8-page booklet released by Gits Bros. Mfg. Co. containing the firm's line of visual oilers. The 8½ in. by 11 in. booklet contains endorsements from equipment manufacturers and maintenance engineers or specific applications of the various oilers. Numerous photographs and diagrams illustrate the gravity feed, wick feed, constant level, vibrating rod and multiple oilers. Detailed catalog information on every oiler includes a photograph, stock number, capacity, thread, dimensions and prices.

Fan Attachment — Announcement has been made by Weston Electrical Instrument Corp. of a motor-operated fan attachment for the Weston Relative Humidity Indicator. Powered by dry cells, sponsor claims the fan moves air over the indicator's wick in sufficient volume to permit obtaining readings within 30 sec. on a slide rule. The instrument can be used to analyze humidity conditions around operating machinery and small, confined spaces. Manufacturer states no calculations are required to obtain readings.

Recent Goss Shipments

RECENT shipments by the Goss Printing Press Co. include four Cox-O-Type and one Goss Duplex Model E flatbed presses. The Cox-O-Types went to the Ward Anderson Printing Co., Albuquerque, N. M.; the Charleston (Ill.) *Daily News*; the Torrington (Wyo.) *Telegram*, and the Curacao (Dutch West Indies) *Paulus Drukkerij*. The Model E flatbed was sent to the La Paz (Bolivia) *Talleres Litograficos*.



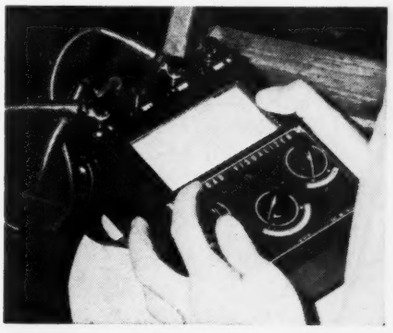
Magazine Rack for Intertypes—One of the split magazine racks used on Intertypes in the plant of the Vogue Composition Co., Los Angeles. The racks were built by S & M Mfg. Co., custom builders of steel equipment. The magazine is rested upon a slide which in turn glides over aluminum rollers under the same principle as a filing cabinet drawer slides in and out.

Printing Press Roller

A PRINTING press roller that is claimed not to support fire has been announced by the Mechanical Goods Div. of The Goodyear Tire & Rubber Co. Company states besides its fire-resistant safety quality that will reduce greatly the danger of pressroom fires, the new press roller will not swell under the action of oily inks. Research technicians for the company say the new roller will retain original hardness throughout its life, will keep proper resilience and will require less re-grinding than ordinary rollers.

G-E Load Visualizer

AN improved a.c. load visualizer, combining five instruments in one, has been announced by General Electric's Meter and Instrument Divs. Sponsor states that besides serving as a standard 0-2.5/5/25/50 amp. ammeter



Improved a.c. load visualizer announced by General Electric Co., which combines five instruments in one.

and a 0-150/300/600 v. voltmeter, the device can be used with a split-core or conventional instrument transformer to extend the range for determining watts, vars, volt-amperes and power factor.

Designated as the Type AF-2, the instrument can be applied in load surveys, induction motor tests, reactive power studies, and power factor checks in power and lighting circuits. It is self-contained to 50 amps. and extensible to 1000 amps. by split-core current transformer.

The Type AF-2 is housed in a grease-proof textolite case with a detachable leather strap and measures 6¼ in. by 8 in. by 4 in. Manufacturer claims that the instrument's accuracy of indication has been determined to be within 2 per cent for volts and amperes and within 5 per cent for component amperes.

Bassick Bulletin

THE Bassick Co. has issued a 4-page bulletin containing information on heavy-duty casters in 5 in., 6 in. and 8 in. dia. wheel sizes. The bulletin contains photographs of the various component parts of the caster which include the one-piece forged steel horn with bearing seat, main load bearing, top plate, Timken thrust bearing, slotted nut for adjustment and forged steel wheel. Illustrations and specifications are given for eight types of swivel and rigid casters.

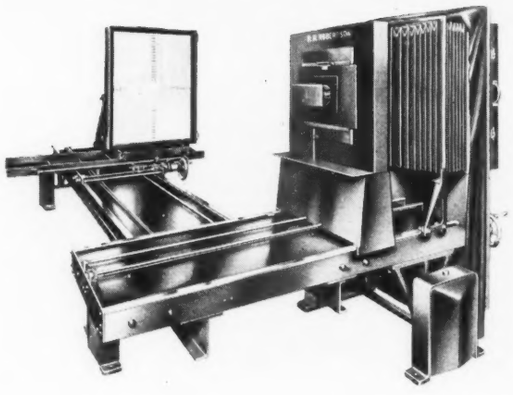
Folder on Improved Press

THE Southworth Machine Co. has published a four page illustrated folder which is descriptive of the Southworth-Post improved automatic envelope press. A copy of the bulletin will be sent upon request. Features of the press are automatic trip when hopper is empty or should the envelope fail to feed, prints both face and flap, variable speed control and specially constructed stand for press with tool compartment below.

Robertson Prism Camera

DESIGNED for prism use exclusively is a Darkroom Prism Camera announced by R. R. Robertson Co. Camera is so constructed that the copyboard is at a right angle to the camera bed. The copy board side movement is connected to the front case in such manner, states the sponsor, that the copy board is always centered with the prism regardless of the bellows extension.

Standard or screen raising type rear case is enclosed in the darkroom for operation. Camera features an all-metal plate holder that has type bars with a centering device for loading in darkness. Camera is fitted with a scale focusing system calibrated to the focal length of the lens applied. A Microstop compensates for the refaction of the halftone screens.



Darkroom Prism Camera announced by R. R. Robertson Co. Manufacturer claims copy board is always centered with prism regardless of bellows extension.

Available in 24 in. and 31 in. sizes, with or without screen raising. *Printing Equipment Engineer* will gladly furnish additional information upon request.

ATF European Types

AMERICAN Type Founders has completed arrangements with Typefoundry 'Amsterdam,' Ltd., of Amsterdam, Netherlands, to distribute European type designs in the United States. These will be cast in the Netherlands on ATF regular bodies, and will conform to the standards of this country in height, fitting, alignment and fonting schemes. The following faces are being introduced:

NOBEL light on display here
Rondo Bold on display here
Aigrette Type is on display here shown
LIBRA ON DISPLAY HERE
HIDALGO IS ON DISPLAY HERE

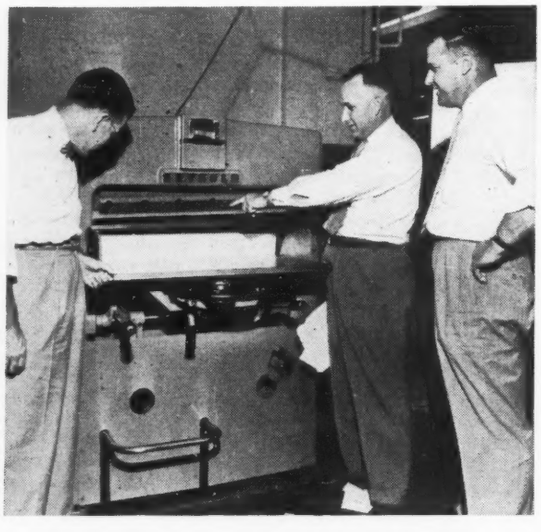
European type designs being imported by ATF. Examples include faces which are now available and those which are to be available later in the year.

Nobel Light is practically a lightface companion of the ATF Spartans. Available only in the roman, from 8 pt. to 30 pt. Range will later be extended from 6 pt. to 72 pt., and an Italic added.

Libra, in 8 pt. to 60 pt., is an interpretation of the uncial form of letter which was popular in the Fifth and Sixth Centuries. Libra Light will be offered probably in the fall, according to ATF.

The Egmont family has been in the Intertype line in body sizes for several years. Egmont Light, which does not come on the machine, is a particularly graceful, delicate and useful member of the family, states the sponsor. All three weights are available in 8 pt. to 60 pt., the Light and Medium Italics in 8 pt. 36 pt.

Before the year ends, ATF also expects to begin importing Rondo, Studio, Aigrette, Gracia and Hidalgo.



34 in. Dynaclamp Paper Cutter—Unveiling of the Seybold 34 in. Dynaclamp Paper Cutter took place recently at the New York office of Harris-Seybold Co. during a meeting of all sales personnel from the company's Eastern District. Feature of the cutter is the automatic clamp which has its force transmitted by means of oil to the clamp, and thence to the paper. Range of pressure is from 500 lbs. to 4000 lbs., adjustable to the force desired. Sponsor claims that transmission of motion through oil gives the clamp a cushioning effect upon impact with the paper, reducing the chance of disturbing the pile. Other features include shear boxes to guide the knife, safety devices and double shearing motion. Designed for use in small and medium shops, the cutter has a full 35 in. table. Shown from left to right viewing the cutter are Roy Tyler, Manager of Installation and Service; Russ Haywood, Chief Engineer of the Seybold Div.; and Earl Landis, Special Service Representative.

Blatchford Booklets

DESCRIPTIVE of Blatchford Type Metal and Blatchford Plate Mounting Base are two booklets recently released by E. W. Blatchford Co., Branch of National Lead Co. Entitled *Casts of Character*, the type metal booklet contains a description of the various uses of Blatchford metal, its contents and the care it receives. Containing 22 pages and cover, the 5½ in. by 7¾ in. booklet is printed in black and silver with 30 illustrations along with the text to convey its message.

Illustrative of the various parts and accessories for the Blatchford Plate Mounting System is the other booklet which is printed in blue, silver and black. Advantages of the Blatchford System are listed and the operation of the base, pin catch, key and pin, and other parts are explained. The booklet measures 3¾ in. by 8¼ in.

Testing Instruments

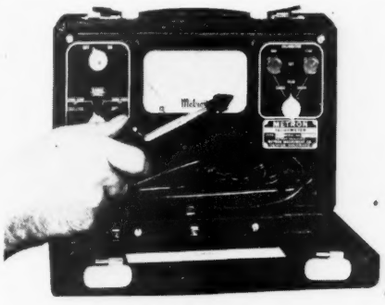
BURSTING strength testers for boards, papers, fabrics, and dial micrometers for thickness measurement of sheet stock materials up to ½ in. thickness, are illustrated and described in a bulletin issued by E. J. Cady & Co. The micrometers are calibrated in 0.001 in. or 0.005 in. and operate on deadweight and spring action principles. Also shown are basic weight scales for weight by 480, 500 or 1000 sheet count of papers and tissues, and a boxboard scale which registers number of sheets per 50 lb. bundle.

Application Booklet

THE application of air motors, compressors and vacuum pumps to various industrial machinery is described in a booklet issued by Gast Mfg. Corp. Of interest to the Graphic Arts is a brief description of the application of such motors to compressors and vacuum pumps to conveyor-belt drives, humidity control units, printing presses, vacuum-back cameras, printing frames, etc. The two-color, 12 page booklet, measures 8½ in. by 11 in., and contains nearly 40 illustrations.

Tachometer for Motor Testing

RECENTLY announced by Metron Instrument Co. is the 48K Precision Tachometer with ranges designed for motor and generator testing. Total speed range without adapters is 360 to 4000 r.p.m. for accommodating

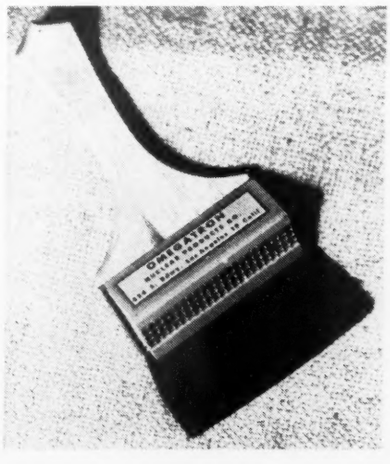


The 48K Precision Tachometer announced by Metron Instrument Co. for testing motors and generators.

synchronous or induction motors and most geared type motors. Head adapters are available for checking high speed universal motors or extreme low speed gear motors.

Any one of ten ranges is selected by a rotary switch and sponsor claims no damage will result from overspeeding up to about 8000 r.p.m., regardless of range setting. Manufacturer states readings are accurate on all ranges to within ¼ percent of actual speed. A self-calibrating circuit is built into the instrument.

Printing Equipment Engineer will gladly furnish additional information upon request.



Dust Removing Brush—Nuclear Products Co. has announced the Omegatron Brush used for removing dust and lint from films, plate-holders, enlargers, contact printers, halftone screens, glass and other statically charged surfaces. A strip of radioactive Polonium is mounted on the ferrule of the 3 in. camel's hair brush. Dust and lint are removed, first by neutralization of the static, and then by manual wiping action of the brush. Once neutralized, claims the sponsor, a surface will remain in that condition, unless rubbed or handled again. Further information is available upon request to ***Printing Equipment Engineer.***

Two Films and Filters Announced by Eastman

THIN-BASE Film—A special Kodak Commercial Thin-Base Film is specifically intended for use in gravure printing and layout work where an extremely thin-based film is desirable for making continuous tone negatives or positives. Film base is 0.0035 in. thick. Film has same emulsion, speed, and characteristics as standard Kodak Commercial Films.

Blue-Sensitive Film — A Kodalith Blue-Sensitive Film for the Graphic Arts has been announced. The film, which has no antihalation backing is specifically made for those who want to literally reverse an image by exposure through the back of the film.

Safelight Filters—An improved type of Safelight Filter, claimed to offer a number of advantages to photographers, Graphic Arts workers, and others requiring special darkroom lighting for the safe handling of sensitized products, has been announced. These filters differ from previous Wratten Safelights in that they are made with a single sheet of glass on which is coated the Wratten filter gelatin, instead of two sheets of glass with a gelatin filter between. The special gelatin-coated glass, plus a diffusing material, is encased in a Tenite coating for protection against scratches and rough handling. Manufacturer makes the following claims: Light transmitted through the safelight is of an improved quality since the light is distributed more evenly. In most cases, the Safelight Filters will remain intact and not leak unsafe light even if the glass is cracked because the gelatin coating normally remains unbroken. They will not be damaged by water or processing solutions splashing on them accidentally. They are also highly resistant to moisture vapor. Kodak Safelight Filters, new type, will be available shortly through all Kodak dealers.

Variable Speed A. C. Drive Catalog

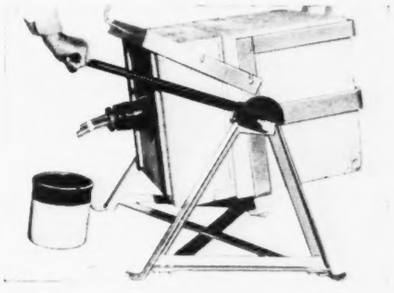
THE Louis Allis Co. has published a 12 page illustrated bulletin, 8½ in. by 11 in., printed in color. In it is described an alternating current motor having infinitely adjustable speeds. Company states that the Adjusto-Spede provides a variable speed output with a constant torque characteristic through an entirely new eddy current principle without motor generator set or exciter. The motor operates directly from a 2 or 3 ph., ac.c. line. The drive is suitable for driving offset, web and flatbed presses, slitters and rewinders or variable speed machines in which is required constant torque input throughout its operating speed range. The bulletin 611-D, will be sent upon request.

Production Recording Counter

THE Streeter-Amet Co. has announced a scientific and industrial counter (recording) that has special application to the printing industry. It can be actuated by any electrical pulse or signal from a contact switch, photo tube and amplifier, metal detector, etc. It is easily made to register any change in electrical intensity. This allows it to be used in conjunction with many power devices. When the load changes beyond a certain point, a count is registered. Streeter-Amet recording counters have broad scientific applications. They may be equipped to count the number of signals in a group. They are widely used in conjunction with scientific instruments. They are useful where background counts must be taken over a period of time. An illustrated bulletin E is available upon request.

G-S Carboy Tilter

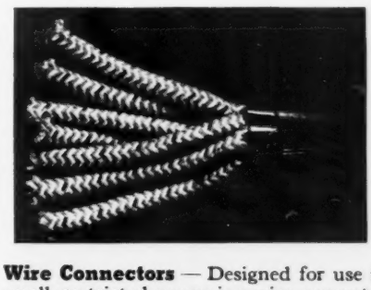
DESIGNED for draining acids and other liquids from carboys is the Safety Carboy Tilter recently announced by General Scientific Equipment Co. A locking device permits the carboy to be held at any angle for pouring. Cradle and supporting base of the Tilter are made of structural steel.



Carboy Tilter announced by Genera Scientific Equipment Co. for draining acids and other liquids from carboys.

The device is equipped with a safety air vent pouring spout which the sponsor claims will insure an even flow of acid without spurts or splashes. Spout is constructed of acid resistant rubber and plastic tubing.

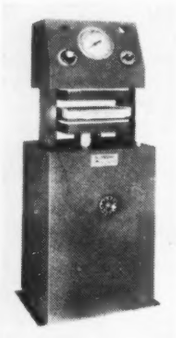
Flow capacity is 5 gal. per min. A long handle operates the tilter and permits the operator to remain at a safe distance from the acid. Additional information may be secured from *Printing Equipment Engineer.*



Wire Connectors — Designed for use in small, restricted spaces is a wire connector recently announced by Holub Industries, Ind. The connectors can be used for wire combinations ranging from 2 No. 18 wires up to 3 No. 10 with a stranded wire or equal bulk, solid, stranded or a mixture. Pictured is the No. 4 universal size for joining 7 No. 18 stranded wires. Further details may be obtained from ***Printing Equipment Engineer.***

Hydraulic Vulcanizer

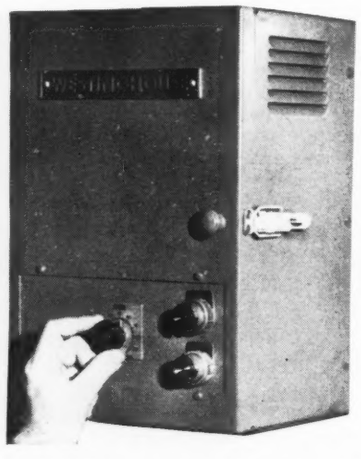
ANNOUNCEMENT has been made by Electro-Copyst, Inc., of the Model V-107 All-Electric Hydraulic Vulcanizer. Manufacturer states that rubber plates made on Model V-107 can be used on any flatbed, web or rotary



All-Electric Hydraulic Vulcanizer announced by Electro-Copyst, Inc.

letterpress press or multigraph, and can be used in conjunction with offset in imprinting work.

The bench or floor model machine is equipped with floating and precision ground 9 in. by 10 in. platens and 32 spring steel bearers for plates of predetermined thickness. Sponsor states that the insulated platens use 1500 w. of current in operation. Maximum pressure is 30 T. which is provided by a self-oiling, piston-type, high-pressure pump. The 4 in. steel ram is controlled by a hand operated valve. Standard equipment includes a pilot light, automatic thermostat, timer and pressure gauge.



Speed Drive — Westinghouse Electric Corp. has announced a fractional horsepower adjustable speed drive called Mot-O-Trol. Sponsor states that Mot-O-Trol employs electronic precision to provide a stepless range of speed control for d.c. motors from a.c. sources. It starts motors, brings them up to pre-set speed, permits change of speed at any time, applies braking for stopping and reverses motors, claims manufacturer. The unit is controlled by a single dial. Sub-assembly construction affords removal for maintenance purposes. Speed may be pre-set before the motor is started or it may be changed after the motor has come up to speed.

Plastic Plate Bulletin

A PLASTIC Printing Plate Bulletin is available from The Rapid Electrotype Co. In the bulletin are illustrated and described the various steps employed in making plastic newspaper advertising plates. Also shown are progressive views in the mechanical department of a typical Rapid quality plate division. The illustrations have been carefully prepared with stripped-in identification words and arrows, which with the captions enable the reader to understand each processing step readily. Rapid explains in this bulletin that it has spent more than $400 thousand of its own money for especially engineered and designed equipment for the production of its plastic plates. Color is used liberally in the printing. In addition to black, red, yellow, blue and green appear in the design. Address your request to Rapid Electrotype Co., Cincinnati 14, Ohio.

Modern Wood Type Catalog

PRINTING executives who have not kept themselves informed about progress in the manufacture of wood type will be pleasantly surprised when they look through Hamilton Mfg. Co.'s new 36 page Wood Type Catalog. In addition to regular perennial uses, wood type is used for newspaper and magazine advertising, broadside mailing pieces, sales bulletins, catalogs and other advertising and sales promotion printing. Sizes range from 4 line (48 pt.) up to and including 100 line.

Most of the specimen lines shown in the catalog, range from 4 line to 8 or 10 line sizes. Some of the faces shown are Balloon, Broadway, Bernhard Gothic, Futura, Goudy Italic, Kabel and Stymie. Specimens in the catalog were printed direct from wood type.

With each specimen showing, tables are furnished to indicate the point width of each capital, lower case and figure in sizes ranging from 4 line to 10 line.

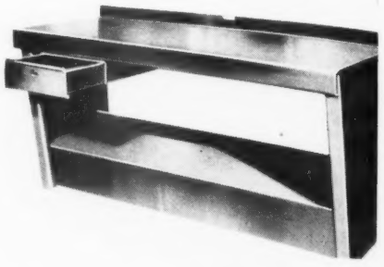
Calendar figure sets, rule, auxiliaries and end-grain wood block stock are illustrated and described. A copy of the catalog is your's upon request to *Printing Equipment Engineer*.

Non-Warp Glue

DEVELOPED for summer use and humid climates is a specially compounded cake form animal glue base adhesive, announced recently by Paisley Products, Inc. It is claimed to hold paper and cardboard assemblies at 100% r.h. over water at 100 deg. F., without delaminating.

Recommended dilution with water is from 25% to 75% by weight. Correct running temperature is between 125 deg. F. and 140 deg. F. The glue is light amber in color, becoming transparent when reduced with water and applied on material.

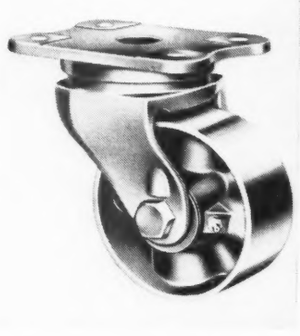
Product is usable on paper, cardboard, coated fabrics, leather, felt, cork and other porous materials. Available in cake form, weighing approx. 9 lbs. ea., prescored for separation and melting. Additional information may be obtained by writing *Printing Equipment Engineer*.



Steel Work Bench — Designed for diversified use in industry is a work bench with a 12 ga. steel top announced by Equipto, Div. of Aurora Equipment Co. Measuring 6 ft. long, 34 in. high, and 28 in. deep, the bench features a pilfer-proof drawer, risers on the back of working top and lower shelf, and electrical plug knockouts in each leg. Further details may be obtained through *Printing Equipment Engineer*.

Dyna-Speed Bulletin

BULLETIN No. 860 (2 pages) is descriptive of Dyna-Speed electronic motor control for printing presses and other Graphic Arts machinery. The bulletin is published by Brown-Brockmeyer Co. Dyna-Speed is built in cabinet or box form for remote, stepless speed asjustment and control for fractional h.p. motors from ¼ h.p. to ½ h.p., 110 v. or 220 v., 50 cy. or 60 cy. operation. It may be set to hold any desired speed over a range of 20:1 (80 to 1800 r.p.m.). Both the armature and field of the d.c. motor are supplied with power from a grid controlled, full wave rectifier, which converts a.c. into d.c. The magnitude of voltage supplied to the motor armature is varied and the electrical "brain" automatically adjusts this voltage to correct for any change in motor load and to change the motor shaft speed at the will of the operator.



Heavy Duty Casters —The Bassick Co. has announced forged steel precision heavy duty casters in 5 in., 6 in. and 8 in. dia. wheel sizes. Sponsor states that these sizes are recommended for operating loads of 1500 to 2000 lbs. per caster. Enclosed main load bearings and Timken thrust bearings are features of the casters. *Printing Equipment Engineer* will furnish additional details upon request.

View of one of the racks placed alongside each rotary press in plant of Standard Register Co., Dayton, O. The reader will agree that the skimpy cores appear to have had practically all of the usable stock run off by the press crews. The core waste program brought fine cooperation from the pressmen.

Core Waste Program Brings Results

UNLESS a pressman is unusually waste-conscious, or unless he is conditioned to watch for waste, he probably will add to his company's costs through excessive waste of paper. And even if he is a cautious operator, wasting little through errors and carelessness, it is probable that he completely overlooks the possibilities for savings in reduction of what appears to him an incidental item: Core waste on web-fed presses.

At least, The Standard Register Co., Dayton, O., thought that was what was happening. It was noticed that butt rolls were larger than they should be. It appeared that a possible chance for cost reduction was being passed up if the core waste problem was permitted to continue.

The result of this decision was a month-long campaign, designed to accomplish no other job than reduction of core waste. When the campaign was ended, results apparently were attained.

The campaign was opened with a stunt intended to awaken pressmen to the fact that core waste was excessively high. With no previous announcement, several members of pressroom supervision one day walked into the pressroom with a butt roll and began unrolling it along an aisle. They made no comments to anyone. When they had unrolled the paper to its full length, pressmen began to get curious. They inquired into the reason for this procedure, and the supervision knew its first step was successful. The employee's curiosity was aroused. Supervision filled that gap of curiosity by explaining that unrolled only an average butt roll was unrolled, and that this should indicate to the men how much workable paper still remained on it. As a whole, employees were amazed. They honestly hadn't realized how much they were throwing away in usable, perfectly good paper every hour. The size of butt rolls decreased noticeably.

But waste still was excessive, so the unrolling stunt was followed by the placing of a display in a prominent position, where all department employees could see it. The display consisted of a number of butt rolls, with each marked as to length of paper remaining on the roll, and figures showing how many more continuous forms (Standard's principal product) could have been produced from that roll. Accompanying the rolls was a sign asking for suggestions to "save paper, not by pounds, not by pieces, not by inches, but by the mile." This emphasized again, that core waste did exist, and played up the magnitude which such waste reached. Again core waste noticeably decreased.

Then came the final, top strategic move. Core waste, along with all other paper waste, was deposited by pressmen in waste cans and trucks. Supervision brought core waste out into the open. A rack was built beside each press, for butt rolls to be placed separate from other waste. Pressmen then had a visual reminder of how much waste they were creating, and all chances for "sneaking through" a too-big butt roll were removed.

Did the campaign succeed? Pressroom supervision at Standard Register thinks so. Butt rolls are noticeably smaller, and have been smaller for some time, even though the campaign was not a recent one. In substantiation of the campaign's success, Standard's Pressroom Supervisor Edward Honnell offers no complex figures, but an easily-understood, forthright fact.

"For years," Honnell says, "it has been our practice to permit employees to take butt rolls home with them for use as shelf paper and so forth. The only restriction was that an OK from supervision must first be obtained. We issue very few OKs anymore, for the simple reason that there's not enough paper left on the rolls to make them worth carrying home."

BOOKS
RECEIVED

Labor-Saving Devices for Composing Room

FIFTY-FIVE years experience in the printing industry throughout the country urged Edwin H. Stuart, author of *Labor-Saving Devices for the Composing Room*, to offer to the industry the complete story of how these devices operate. There are 39 pages of text and 26 illustrations. The book includes explanations of regular operations and equipment used in the single type-operated composing room of Edwin H. Stuart, Inc.

The statement "Time is money" is accentuated when referring to the composing room. For this reason, it appears that Mr. Stuart should be in a position to tell the world something about time and labor-saving devices and methods. It is notoriously true that one can lose his shirt if he doesn't literally bring the work to the man. Mr. Stuart is a successful operator of a trade composing room, and his discussion should command the attention of all executives operating either trade or private composing rooms.

Mr. Stuart tells of the use of tie-up slugs in his Pittsburgh composing room. Also included is the arrangement of the compositor's work bank and a complete explanation of a materials storage system. Excellent illustrations are shown of the equipment for this storage system and its arrangement. Operating procedure for making up forms and lockup of forms for delivery to the foundry are discussed in another section of the book. The handling and storage of cuts and storage of large ads and forms are explained. The concluding part deals with the functioning of the break-up bank.

Each section of Mr. Stuart's book contains helps, aids and suggestions which will prove of value to the person concerned with the functions of a composing room. Plant superintendents, owners, shop foremen and compositors should find this text helpful in ironing out kinks in their composing room production or in utilizing the ideas for that department in their own plants.

Labor-Saving Devices for the Composing Room —By Edwin H. Stuart contains 39 pages and measures 7 in. by 10½ in. Hard bound, blue cover has gold stamped lettering. Contains 26 illustrations. Reproduced by offset-lithography. Price $5 per copy. Order from Edwin H. Stuart, Inc., 422 First Ave., Pittsburgh, Pa.

Devices Facilitate Production at Youngstown (O.) Vindicator

AT THE Youngstown (O.) *Vindicator*, a number of mechanisms and contrivances have been developed right in the plant. Maintenance Chief Al Chagnot, seems to have the ability to come up with something which might be needed badly from time to time.

Metal Remelting Pot

The composing room metal remelting pot is situated at one side of the stereotype department. It is a 1½ T. pot equipped with Kemp immersion burners. The height of the pot cover is 53 in. from the floor. A wall pyrometer indicates the temperature of the metal in the pot, which, in the case of the *Vindicator*, is permitted to reach a max. temperature of 625 deg.

A metal dumping chute (Fig. 1.) was devised by Mr. Chagnot to charge the pot. This device relieves the metal man of considerable muscular energy. To describe the chute briefly, we'll state that it is constructed of ¼ in. sheet steel. One end of the chute is fixedly hinged to the pot flange. The upper or chute part is 18½ in. wide with 5¾ in. high side walls.

The lower part of the chute is open at its outer end where it rests upon the floor. The open end permits wheeling a hand truck right into the chute. The level part of the chute upon which the trucks are wheeled is 23 in. long by 22½ in. wide, and when resting upon the floor, the outer end of the chute is 88 in. from the center of the furnace jacket. As will be seen in the illustration, the side walls of the outer end of the chute are tapered for two reasons: (1) The additional metal provides construction strength, and (2) The higher side walls assist in guiding slugs to be remelted straight into the chute.

The power for lifting the chute containing the truckful of metal is a 1 T. Budgit trolley type hoist. The hoist is suspended upon a 5 ft. length of I beam affixed to the ceiling which is 12 ft. from the floor. The hoist cable is ¾ in. sprocket chain which winds and unwinds around a drum in the hoist. A pendant switch is suspended by cord and is within easy reach of the operator.

When a truck full of metal is run upon the chute platform, the operator manipulates the pendant switch. The free end of the chute describes a sector of a circle during its lifting movement and the hoist is free to adjust itself to the movement of the chute. In the upward position of the chute, the metal slides by gravity down the chute into the pot. The switch is manipulated to reverse the hoist motor. When the chute is in the up position, the metal cart is prevented from sliding movement down the chute by two steel

Fig. 2.—One of the four dollies designed and made in plant of Youngstown (O.) *Vindicator* by Plant Maintenance Engineer Al Chagnot. In this illustration the Linotype machine frame leg has been raised and the hanger slipped underneath the toe. The machine may be rolled easily to its new location on the four dollies.

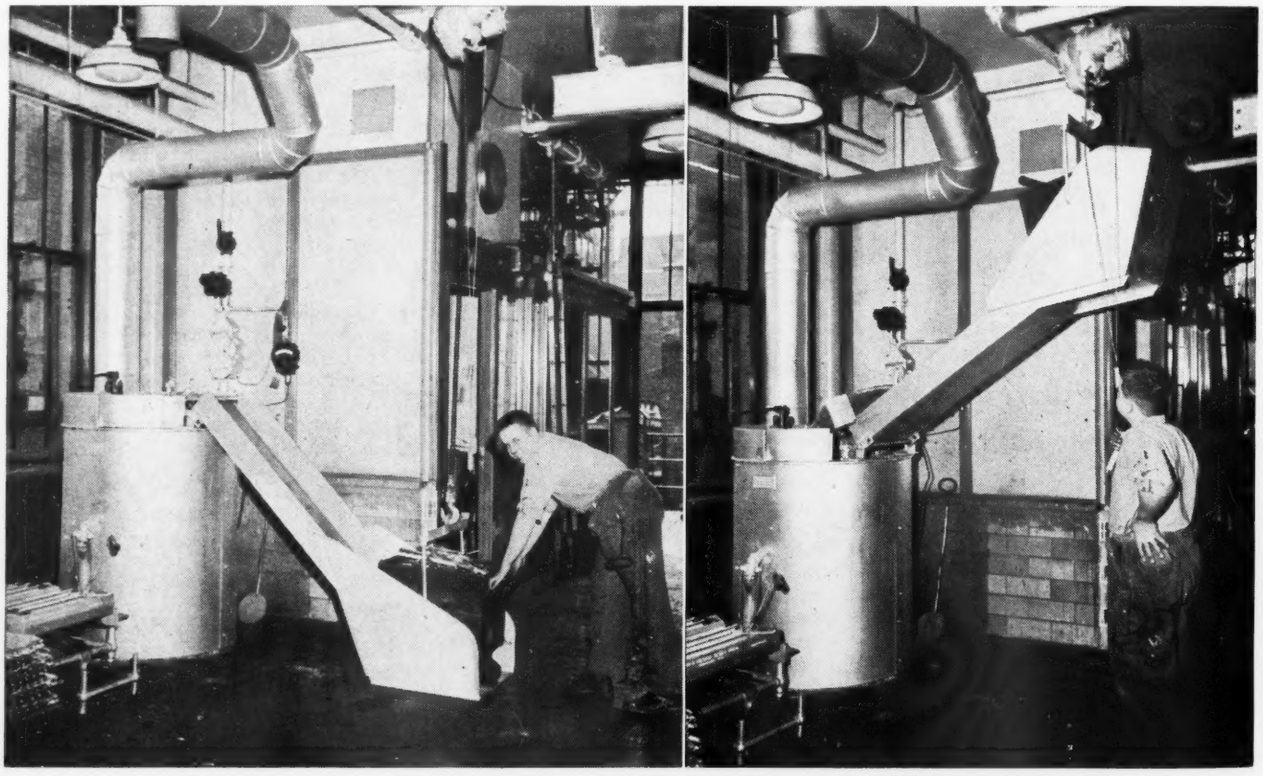


Fig. 1.—View of type metal remelting equipment in plant of Youngstown (O.) *Vindicator*. The 1½ T. metal pot equipped with Kemp immersion burner equipment, is supplied with a metal charging device designed and built by Al Chagnot, Plant Maintenance Engineer. While the metal charging chute is resting upon the floor, the metal remelting man pushes a loaded hand truck into the open end. The upper end of the chute is hinged to the metal pot flange. A hoist affixed to a short-run rail on the ceiling and connected to the chute by ¾ in. sprocket chain winds and unwinds around a drum in the hoist. The furnace, chute and stack have been covered with aluminum paint.

In the right-hand illustration, the operator is manipulating the pendant switch which causes the hoist to raise the metal truck. Slugs fall by gravity down the slanting chute into the pot. To prevent smoke floating from the pot out into the room, a hinged lid is automatically raised when the chute is in charging position. The lid falls back into closed position when the free end of the chute is lowered to the floor.

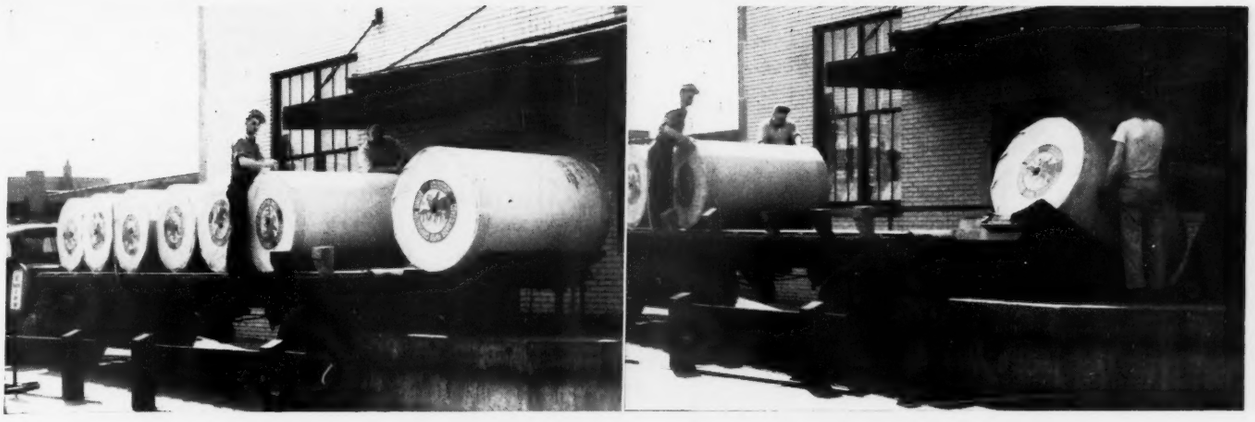


Fig. 4—At left is shown the newsprint roll unloading device in use at Youngstown (O.) *Vindicator*. The unloader was designed by Al Chagnot, plant engineer. The truck containing seven rolls of approx. 2000 lbs. each has backed up to the unloader. One roll is resting on the tilting cradle ready to travel by gravity down the skids into the basement. (See Fig. 5). A three-way air valve for operating the cradle is manipulated by the take-away men in the basement. At right the cradle has been tilted and is about to start from the cradle down the skids into the basement.

projecting plates over the wheels. Small trucks are held with a hook.

The metal trucks are stout affairs, are of various sizes and are constructed from ¼ in. steel plate. Most of the trucks are of the ordinary three-point type—two large (8 in. wheels) and one small swivel caster. The truck body measures 24 in. from front to back at the top; it is 15 in. wide, and 16½ in. high. The front end of the truck body is tapered approx. 20 deg. to facilitate the dumping movement when charging the furnace. The trucks hold approx. 500 lbs. of slugs.

Paper Roll Unloader

Constructed of surplus material in the plant of the Vindicator Printing Co., Youngstown, O., this paper roll unloader, (Figs. 4 and 5) designed, constructed and installed by Al Chagnot, has now performed for months without repair, parts replacement and at comparatively no upkeep.

In operation, the unloader is brought to the horizontal roll receiving position at the rear end of the paper truck by a cylinder actuated by compressed air applied through a 5 in. brass cylinder with a 19 in. stroke. The three-way air valve is controlled by the take-away men in the basement at bottom of skids in storage room.

The two rear legs of the roll tilter carrier, are hinged at the bottom, and are placed two-thirds of the way back to give the roll the same angle as the skids to basement. As a safety measure two legs which are manually operated, by folding back are at the front of the roll holder.

When a truck loaded with seven rolls, weighing 14,000 lbs., backs up to the platform, the unloader receives them at truck floor level and tilts to skid level as fast as the workmen can shove the rolls from the rear of the truck. Unloading an entire truck load takes less than 3 min.

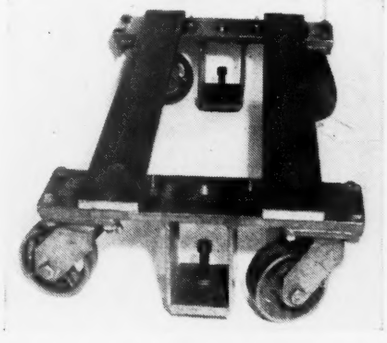


Fig. 3.—In this illustration, two of the dollies one of which is shown in Fig. 2 have been fastened together. Also needle points project upwardly from the dollie tops. When heavy wooden packing cases are to be brought into and moved about the plant, the points hold the case to permit transporting the case to its destination. In this way, while the dollies are needed only at rare intervals for moving line-composing machines, yet they are used frequently for other purposes as described in this article.

Dolly for Moving Machines

Some time ago, the composing room equipment layout was rearranged. It was necessary to shift the line-composing machine around, both to make room for a number of new machines and to provide a more efficient arrangement. To make this work easier for Composing Room Supt. W. R. Coddington and Head Machinist Tom Carter, Mr. Chagnot designed and made individual miniature trucks or dollies (Fig 2) one of which can be slipped under each toe of the machine pedestal.

When it is desired to move a machine, two opposed pinch bars are used to raise a pedestal toe ¾ in. off the floor. While the toe is in the raised position, the hanger or stirrup of a dolly is slipped under it. One by one, the other pedestal toes are raised from the floor and a dolly is slipped underneath. The machine can then be rolled along the floor and placed in the desired position.

As will be seen by the illustration, the dolly is constructed of a steel plate, two ball bearing swivel casters and a hanger. The top plate is made from ½ in. steel plate, 4 in. by 16 in. At either end of the underside of the plate a service ball bearing swivel caster is bolted. The steel wheels of the caster measure 4 in. diam. by 1½ in. face. Centrally, on the underside of the top plate is welded the hanger. The hanger or stirrup is made from ¼ in.

Fig. 5.—View of skids leading from unloading platform to basement in plant of Youngstown (O.) *Vindicator*.

steel plate and extends across the 4 in. width of the top plate. Its width is approx. 3 in. which is more than sufficient to accommodate the machine's pedestal toe. The distance from the underside of the top plate to the floor is 5⅝ in., thus providing clearance of about ½ in. from the underside of the hanger to the floor.

Mr. Chagnot has insured permanent usefulness of these dollies (Fig. 3) so that heavy boxes packaged in wood may be transported easily. He drilled and tapped the top plate about 6 in. from either end of the top plate for two ⅜ in. by 16 screw threads. In each of these holes was turned up a hex. hd. screw from the underside. The ends of the screws were turned down to a point so that the points project upwardly from the top plate about ½ in. He then cut two pieces of steel plate 4 in. by 24 in. long. These were drilled at each end to permit assembling the top dollies and 24 in. pieces into one truck. The 24 in. pieces are fastened to the dollies by two of the screws holding the casters to dolly top plate. When a packing case is to be moved, the case is raised from the floor one end at a time and the dollies slipped underneath. The steel points enter the wood in the packing case and hold the case on the dollies securely enough to permit rolling the case along the floor.

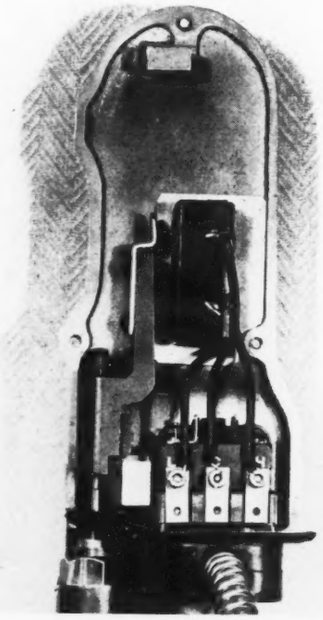


Fig. 6. — Photographic illustration of modified Linotype earlier electric metal pot thermostat showing manner of wiring *L*, *C* and *H* terminal wires to Micro or Mu switch.

Micro Switch on Thermostat

Modification of earlier style Linotype electric metal pot mechanical thermostat (Figs. 6 and 7) has been effected by Mr. Chagnot. A number of the mechanical parts were eliminated. He installed a 10 amp. micro switch instead as shown in the illustration. The modification was accomplished as follows:

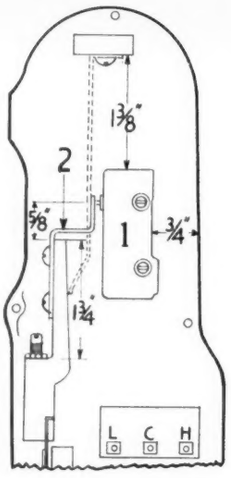


Fig. 7.—This diagram shows dimensions for modifying operation of earlier Linotype electric metal pot thermostat by fitting in a Micro or Mu switch *1* and refitting fulcrum lever with copper offset piece *2*.

On Thermostat F-4803, the following parts were eliminated: F-4720 fulcrum lever adjusting screw upper spring; F-4775 contact lever; F-3446 contact lever roller support assembly, and F-4790 terminal block assembly.

The fulcrum lever (F-4767) was shortened to 3 in. in length measured from the lower end. The temperature adjusting screw is retained in the fulcrum lever.

Principal element in modifying the thermostat consists of mounting a micro switch (made by either Micro Switch or Mu Switch Corp.) as shown in the accompanying diagram (Fig. 7). The *L*, *C* and *H* terminals in the terminal block are connected to the micro switch by short wires.

The only other addition to the mechanical operating parts of the thermostat consists of fabricating from 3/32 in. copper an offset piece to connect the fulcrum lever with the switch plunger or actuator when commanded by the thermostat expansion rod. It is ⅜ in. wide bent in offset shape which is mounted on the shortened fulcrum lever by two 8x32 rnd. hd. screws spaced approx. ¾ in. apart. The shank of the offset piece is 1¼ in. long, the horizontal offset portion is ½ in. wide and the riser or contact end is ½ in. in length.

Mr. Chagnot states the thermostat will operate at desired temperature within 3-5 deg. max. or min.

D. P. Press Truck Lift

In the *Vindicator* Stereotype department, Howard Measmer, foreman, regards the truck lift designed by Mr. Chagnot as one of the most prized possessions in the department (Fig. 8.) The purpose of the lift is to raise the form truck top ¼ in. above the table or apron on the Lake Erie direct pressure press installed in the *Vindicator* plant some time ago.

It is explained right here that the forms are slid to and from the form trucks from the same press apron. In some plants, the forms are transferred from truck to apron, are molded, and then slid to a truck from the other press tables or, the trucks tops may be adjusted so that one side of the top is ¼ in. above the direct pressure table or apron, while the other side is ¼ in. below the press apron. When the forms are to be slid to or from truck to apron, the truck position is

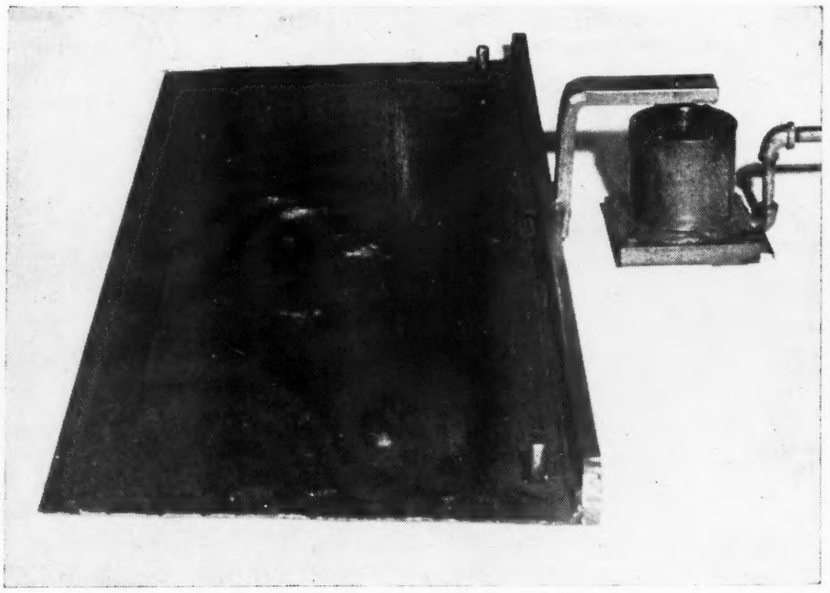


Fig. 8.—View of elevating platform designed and installed in the Youngstown (O.) *Vindicator* stereotype department. When the stereotyper wishes to push a page form from the form truck onto the Lake Erie Direct Pressure Press apron, he pushes an air switch at one side of the apron. Air pressure actuates the plunger of the cylinder shown at right and raises one side of the steel platform to raise the truck so the form will clear the apron. Conversely, when the stereotyper wishes to lower the truck so he can slide the form onto it, he releases the air pressure with the switch which permits the platform to be lowered by gravity.

reversed at the *Vindicator* another means is used to transfer forms to and from the press apron.

A standard 3-way air switch (Johnson Service Co.) is mounted at the left side of the direct pressure press apron. When the stereotyper gets ready to push a page form from the form truck onto the apron of the direct pressure press, he pushes the switch button and the little platform on the floor upon which one end of the truck has been rolled, is raised about ½ in. to permit sliding the form from truck to apron. Normally, the press apron top is 38 in. from the floor; the truck tops are adjusted a fixed distance of 37½ in. from the floor. Thus it will be seen that when the form is to be slid onto the apron, the truck top is ¼ in. higher than the apron. Conversely, when the form is to be slid from apron to truck, the truck is ¼ in. lower in height than the press apron top. To lower the truck, the stereotyper pushes the button on the switch to release the air pressure which raises and holds the floor platform in sustained position while the air pressure is on.

Air pressure is 110 lbs. Cylinder is 3¾ in. bore.

The platform shown in the accompanying Fig. 8, is made from ½ in. steel plate, and measures 38 in. wide by 15 in. deep. The front edge of the platform is beveled to facilitate easy pushing of the truck casters upon and from the platform.

The platform floats upon the floor but is held in position by two screws projecting from the floor through two holes in the platform. The ½ in. diam. screws are embedded in the cement floor.

The air cylinder under the platform is made from Double X heavy pipe. The top is closed with a welded cover. The bore is 3¾ in. The single acting air cylinder is mounted on the floor underneath the rear central part of the platform. Three-eighths inch pipe connects the cylinder with air supply and with the 3-way air switch.

When the 3-way switch shuts off the air supply the plunger returns to inactive position and consequently, the platform returns to contact with the floor by gravity.

Moisture-set Inks—

Biggest use in packaging and paper-converting field — May be used on rotary and flatbed presses

By STAFF WRITER

MOISTURE-SET inks are being used in increasing amounts in the printing industry. Principally, their application is in the packaging and paper-converting field. The principal quality for these particular applications is that they are practically odorless and dry very rapidly with a minimum of offset. An estimate of one of their uses is that 75% of all bread wrappers are printed with moisture-set inks. Among the principal uses for moisture-set inks are printing wrappers, paper containers for liquids and semi-liquids, folding carton and set-up box printing, corrugated and solid fiber board printing, bag and flexible container printing. New uses are being found and printing with them for certain types of work in increasing in popularity.

In Publication Field

In the magazine and publication field, however, numerous trials with moisture-set inks have been made. These have not been too successful. It seems that in this field difficulty has been encountered with the filling of fine line halftone screens in the plates on the press, which in turn causes "specking" in the print. It is reported, however, that "specking" has been overcome in halftone printing. Development work, it is understood, is progressing diligently.

Another interesting note in connection with magazine printing is that the moisture-set type of ink has been used successfully on conventional magazines with heatset equipment and because of the vapor pressure characteristic of the solvent have required less heat to dry. Economically, however, they do not offer any great savings and have been discontinued.

While to date the application of moisture-setting inks in the publication field has not been too successful, it is understood that one large magazine printer is cooperating in developmental work. Information at the moment, however, is not available.

Moisture-set inks originally were developed by the E. J. Kelly Co., Kalamazoo, Mich. In 1945, however, the company became a division of Sun Chemical Corp. In addition to Sun, most ink manufacturers are supplying moisture-set inks.

Property of Moisture-Set Inks

Moisture-set inks, unlike the oil-base inks, is formulated with a synthetic resin base, this resin being put into solution in an organic solvent (such as diethylene glycol) of a fairly stable nature. This synthetic resin put into solution by means of the solvent furnishes the varnish base in place of the usual oil varnish base. The particular property desired in this solvent is that it be of proper solvent characteristics for the resin yet to be miscible with water so that upon dilution with moisture or steam, the resin (insoluble in water) precipitates from the solution.

The ink is available in all colors and in physical appearance looks no different from oil base inks. The consistency is the same and the same pigments are used for the production of colors. However, moisture-set inks are different in that they are relatively free of odor.

Behavior in Can and Fountain

Although a light, volatile solvent is used and it is somewhat subject to evaporation, the ink remaining in partly consumed cans will not skin. There will be but slight evaporation if, after using some of the ink, the can is closed carefully with the lid. The nonskinning quality of moisture-set ink means that at the close of a day's run, fountains need not be cleaned. They may be left at the close of the run without fear of the ink skinning during the night. It is generally believed, however, to be best to cover the fountain with a large sheet of paper to keep excess air getting to the fountain and, of course, to prevent dust accumulating.

This ink may also be left on the ink table and rollers. To a considerable extent, moisture-set ink is of such quality that it can resoften itself—that is, when the press is started up after having stood for a time, the inking apparatus by applying fresh ink will soften the ink on rollers and plate. An anti-drying compound is available that can be put on the rollers and ink table to prevent evaporation of the solvent. In the morning when it is desired to resume the run, it is a simple matter to run waste or wipers over the ink table and rollers to remove the anti-drying solution.

Used With Rubber Rollers

Moisture-set ink can be used only with rubber rollers, since the chemical composition of the ink makes it impossible to use it with the regular glue and glycerine composition rollers. However, a coating has been devised which can be applied to the glue and glycerine rollers in an emergency case or where just a single run is planned for a particular press, after the application of which they may be used with moisture-set ink.

Moderate Sheen

The ink dries to a matt or dull finish with a moderate amount of sheen. On some runs a fairly high sheen has been obtained with moisture-set ink but so far it has not been formulated to give a high gloss. Laboratory lots of the moisture-set ink have been produced that give a high

How Inks Dry

ROUGHLY, inks may be said to dry by four different methods. In a field as complex as that related to printing inks, it is difficult to explain the exact method by which each kind of ink dries without an extended explanation. Some inks are dependent for their drying qualities upon a combination of two methods.

Penetration or Absorption—News inks dry by absorption. Principally, the vehicle is mineral oil which penetrates into the absorbent newsprint.

Oxidation—Most of the inks used on sheet-fed presses in commercial printing plants are compounded with drying oils which act as the vehicle. These oils have the property of absorbing oxygen from the air and dry to a hard film. Many of these inks also dry by a combination of oxidation and penetration.

Evaporation or Vaporization—Evaporating inks, although of different compounds, are used in the gravure and letterpress fields. Inks based on vehicles consisting of solutions of resins in volatile solvents dry by evaporation. The solvents of aniline and of rotogravure inks ordinarily evaporate at pressroom temperature. In rotogravure printing drying is accelerated through the use of enclosed hot-air hoods through which the printed web passes immediately after the printing impression but before the printed image passes through the next printing unit. In letterpress heat-set inks, heat is used to hasten evaporation of the solvents. Resins of high melting points are employed in the inks to lessen the sticking of sheets in rolls or piles.

Moisture-Set or Precipitated Drying Type—These inks consist of a pigment or pigments and a vehicle (or varnish) composed of a snythetic resin and an odorless organic solvent having a high boiling point. The resin is soluble in the solvent and in a mixture of the solvent and a limited quantity of water. It is insoluble in a mixture of the solvent and a greater quantity of water. It is explained that the "drying" action or its equivalent as usually understood by printers is as follows: When a film of the varnish formed from this resin and solvent is subjected to a quantity of water from a moisture applicator, a thin, hard film is formed, overlaying the plastic adhesive underlaying portion. Moisture-set inks may be dried with or without impingement of steam. If steam is used, they dry immediately.

A considerable percentage of moisture-set inks that are precipitated, actually are dependent upon the moisture in the sheet having 5% to 6% moisture content range. There is sufficient moisture in the average sheet of most stocks to dry the ink in from ½ hr. to 1 hr. without the use of steam applicators. To further illustrate drying qualities, one manufacturer states that in some applications there is no comparison in the different drying times. For instance, in the printing of moist, warm corrugated carton stock, the moisture-set ink sets almost instantly due to the natural content of the stock.

gloss but at this writing they are too costly for general use. Manufacturers are working on the gloss angle and it is expected that in time they will come up with a moisture-set ink that will print with a high gloss finish. There is a moisture-set varnish on the market which may be used as an overprint and which gives a high gloss. But this means an additional operation and an additional press run.

Fast Drying

Moisture-set ink dries in a much shorter period of time than oil inks with the exception of those inks which dry by the application of high temperatures. The term "dry" is, of course, a relative term in the printing industry. It would seem that moisture-setting ink does possess drying advantages over oil base ink especially where a job must pass through other operations after being printed with the exception of heat-set letterpress and gravure inks. For instance, a form can be printed on carton stock or kraft paper and usually within 30 min. the printed stock can be slitted and die-cut with no smearing or offset. Also, printed runs can be waxed after two hours with safety. If steam drying applications are used, these runs can be waxed immediately after printing.

Drying of these inks at the beginning of their development was by means of live steam. Now, however, it is understood that far more moisture-set inks are run on presses not supplied with steam units than are run on presses so equipped. Actually, some converters prefer to have a high moisture content in their stock and depend upon that moisture content to set the ink.

When Used With Steam

But getting back to the early development of steam applicators, the steam was taken off a regular steam line and run into a series of from four to as many as twelve 1 in. pipes arranged parallel across the delivery of the press. The pipes are provided with holes 1/16 in. diam. and ½ in. apart, the holes being arranged in a single straight row running lengthwise of the pipe on the under side of the pipe nearest the printed sheet being delivered. This first style drier was hooked up with the press movement so that as a printed form came off the press onto the delivery the drying mechanism would be actuated and the live steam forced out of these holes under its own pressure. This forcing of the live steam onto the printed form dried it sufficiently at once so that there was no possibility of offset and no need of slip-sheeting even on coated stock.

A letter development in the drying attachment has been the addition of an electrical radiant unit placed directly in the steam line at the applicator. The introduction of the electrical unit results in a live but dry steam which has been found better for the drying of this ink than the live steam with greater moisture content. Drying units for this type of ink are now taking this form so that the initial type of drying unit is expected to pass out of use as the type units become available. These newer drying units, like the initial type, are geared to the press so that the steam is forced down onto the freshly printed sheet as it is passed to the delivery. No additional pressure other than the pressure of the steam is used.

Cleaning Rollers and Fountain

The cleaning of rollers and ink plates on which moisture-setting inks are used is different than with the oil base ink. Gasoline, naptha and kerosene cannot be used because none of these will touch moisture-setting ink. Alcohol and water, mixed 50-50 makes a suitable cleaning solution for this ink. In addition, there are specially prepared cleaning solutions obtainable from firms making moisture-set ink.

In printing plants where more than one type of ink is used, it is emphasized that moisture-set inks are not compatible with oil-base inks. On presses where oil-base ink has been used, the press must be thoroughly cleaned of all traces of the oil-base ink before moisture-set ink is placed in the fountain. Oil-base and moisture-set inks do not mix either on or off the press.

Recent Goss Installation

More than 43 years ago, Amon Carter, publisher, took the first copy of the Fort Worth (Texas) *Star* from a press whose initial press run was 4500 copies. This Spring he again took off a first copy, but this time it was from a new 10-unit Goss Headliner press which will print more than 200 thousand copies daily of the *Star's* successor, *The Star-Telegram* in its morning and evening editions.

The installation of the Goss Units is part of an expansion program begun by the *Star-Telegram* 18 months ago. A four-story and basement building has been added which about doubles the plant's size. The program is expected to be finished this fall.

Frank Beneke, Pressroom Foreman, locks the plate on the new Goss Headliner press of the Fort Worth (Texas) *Star-Telegram*.

A Goss Headliner eight-unit press has also been installed by the Des Moines (Ia.) *Register* and *Tribune*, bringing the total capacity of these newspapers up to 34 units.

The Electronic Offset Plate

By ADAM HENRI REISER

SO the man said, "You should see the machine we have in our place. It makes deep-etch plates out of albumen plates." Then we meet another fellow who tells us how much he likes to run "electronic plates," telling us they stay clean, run with less water, and print nice and in full color.

Being an inquisitive sort of guy, you ask questions and find out the two men are talking about the same kind of plate. What sort of a plate is it? Whether you call them bi-metallic or electronic plates, the principle underlying the production of the completed image is basically that of the planographic image. On its completion, metal is deposited around the image by electrolytic means, sinking the image and making the plate in effect an intaglio or deep-etch plate.

First Step is Planographic Plate

What kind of a planographic image is used? Well, the J. H. & G. B. Siebold Co., of New York, N. Y., distributors of the machine used in the production of the plates, says that any of the many proprietary coatings may be used. The writer has seen plates made with the synthetic solution as well as with the egg albumen, both processed in the Electron-o-plate equipment, with equally high fidelity and successful results.

Whatever method may be in use in the shop can be continued, the plate being brought up to that stage of the finishing process where it is about to be etched. Instead of etching it, the plate is thoroughly washed and then immersed in the electrolytic solution in the tank of the machine. Actually, the rest of it is just as easy as plating for that is all it actually is.

The plate is immersed in the liquid, with its work side up, the tank cover is lowered, and a latch snaps into place. When the current is turned on, the zinc of the anodes is deposited on the plate around the image. Any scum on the plate halts the plating action under it. Only areas without the greasy ink will receive the particles of zinc that are carried by the current from the zinc anodes to the press plate.

An electric action of 2 min. has been found satisfactory for most plants, the length of time—automatically controlled—is dependent upon the required depth of the image. When the pre-set time has been reached, the current shuts off automatically, and the plate is ready to be removed from the tank and put under running water.

Any metal deposit that may be clinging to work areas is removed by swabbing the entire plate with a wad of cotton, under running water. The plate is then dried and finished in the regular manner by etching and placing the image under asphaltum.

An inbuilt amp. meter and time regulator control comes with the machine, working the input of current and time control automatically. The electrolyte is kept in constant movement by means of a pump.

Plate Life Expectancy

Plates processed in this manner are said to be superior to the planographic plate in that greater life expectancy is found for the plate. In addition, there is a saving in presstime because of the elimination of plate change in long runs. Also, it is stated there is a distinct improvement in quality. But even more important than all these, is the factor of more rapid drying of the ink on the lithographed sheet, due to less moisture needed on the press plate in the printing operation. The explanation offered for this is the difference in grain structure of the metal deposited. An X-ray examination showed the metal deposited to be of a decidedly crystalline structure which provides greater moisture retention qualities than is obtainable from mechanical graining structures.

While, as mentioned before, any of the proprietary coatings may be used for the image, the Siebold Company recommends that its lacquer be used for the base of the image, and that a deep-etch ink of the consistency produced by that company be used for the best results. Use of these two ingredients on the image before it is immersed in the electrolyte assures the optimum results, it is stated.

Emphasis is placed on the need for a clean plate in development of the original image; otherwise the grease in the grain will reject the deposit.

The Intagolyte (electrolyte) will last indefinitely. You only add additional solution when necessary to keep the anodes submerged; also to keep the pH as required.

One operator using a proprietary coating found that his plates scummed and caused continuous loss of press time. The introduction of the Electron Lithoplate machine, eliminated the scumming trouble and increased the life of the plates by 75%. He found that out of 500 plates stored for re-runs not one had to be reprocessed.

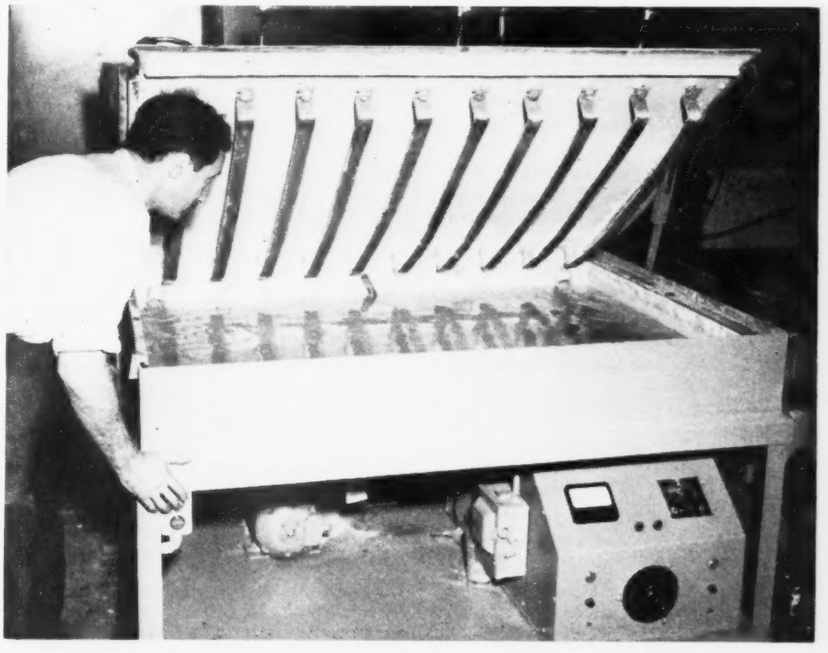
Corrections in the work areas may be effected where found expedient on plates processed in the Electron-o-plate machine. The plates may also be regrained just as deep-etch plates can be regrained.

While the writer observed the operation of the process in a shop having a flow of work of a large variety, the tin decorators are loudest in their praise about the benefits of the machine. In tin decorating, positives had been used previously for the best results. Now the negative alone is necessary, thus effecting a distinct saving.

By means of the Electron-o-plate machine, it appears the platemaker is able to produce a plate equivalent to the deep-etch plate in a more economical manner.

Opens New Branch

Roberts & Porter, Inc., has established a branch in Los Angeles according to a recent announcement by Hugh R. Adams, President. The West Coast branch will carry a complete line of Roberts & Porter supplies for the printing and lithographic industries. Address of the Los Angeles office is 344 No. Vermont Ave., Zone 4.



The Electronic Offset Plate (work side up) has been placed in the electrolyte solution in the "plating" machine. Lid was raised during operation of the machine at the time this picture was taken in a platemaking plant. Method produces a plate in which the non-printing areas are electrolytically coated, with the printing image sunk below the non-printing areas.

Conference Dates *(with organization names and principal officers)*

American Photoengravers Association — 1949 Convention and Exhibition, Fairmont Hotel, Nob Hill, San Francisco, September 12, 13, 14. Frank J. Schreiber, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1950 Conference to be held at Hotel Statler, Buffalo, N. Y., June 5, 6 and 7. Chairman of the Committee, Edwin H. Evers, Production Manager, St. Louis *Globe-Democrat*. Acting Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference—1950 Conference to be held in Toledo, Ohio. Place and dates to be announced later. Ollie G. Fricke, Fifth District Representative, 43 West Apple St., Dayton, O.; Secretary-Treasurer, John Fisher, Superintendent, Reardon-Parshall Co., 466 Larned St., N. W., Detroit, Mich.

Great Lakes Newspaper Mechanical Conference—Hotel Schroeder, Milwaukee, January 15, 16, 17, 1950. President W. R. Coddington, Composing Room Supt., Youngstown (O.) *Vindicator;* Secretary Al. P. Oberg, Flint (Mich.) *Journal;* Arrangement Chairman J. E. McMullen, Pressroom Supt., Milwaukee *Journal;* Chairman Mfrs. and Suppliers Committee, George Morrison, Morrison Co., 125 W. Melvina St., Milwaukee 12, Wis.

Illinois Newspaper Mechanical Conference—1949 Conference to be held at Orlando Hotel, Decatur, Ill., October 8 and 9. President, Sid Scott, Decatur (Ill.) *Herald-Review;* Secretary-Treasurer, Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers — 1949 convention to be held at Mount Royal Hotel, Montreal, Quebec, Canada, September 19, 20 and 21. A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, Ohio.

International Association of Printing House Craftsmen—1949 Convention to be held in San Francisco, Palace Hotel, September 4, 5, 6, 7, 1949. President, Gradie Oakes, Process Color Plate Co., 522 So. Clinton St., Chicago 7. Executive Secretary, Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, Ohio.

International Typographic Composition Association—1949 Convention to be held at Hotel Statler, Boston, Mass., October 13, 14 and 15. Frederick H. Lutz, President, Brockton, Mass.; Frank M. Sherman, Executive Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — 1950 meeting in Ottumwa, Ia. President, Howard (Red) Lee, Composing Room Supt., Ottumwa (Ia.) *Courier;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton, (Ia.) *Herald*.

Kansas Newspaper Mechanical Conference — 1949 meeting to be held at Hotel Kansan, Topeka, Kan., October 1 and 2. President Vern Williams, Mechanical Supt., Topeka Newspaper Printing Co., Topeka, Kan.

Lithographers National Association — President, Randolph T. Ode, President, The Providence Lithograph Co., Providence, R. I.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference — 1949 Conference, Hotel Conner, Joplin, Mo., September 10 and 11. President, Paul S. Ginn, Press Foreman, Sedalia (Mo.) *Democrat-Capital;* Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index;* Chairman of Supply Men's Committee, Robert Robinson, Representative, Certified Dry Mat Corp., 9 Rockefeller Plaza, New York 20, N. Y.

National Association of Litho Clubs — Secretary, William J. Stevens, 317 West 45th St., New York 19, N. Y.

National Association of Photo Lithographers — 1949 convention will be held at Hotel Statler, New York, N. Y., October 19, 20, 21 and 22. Executive Vice President, Walter E. Soderstrom. 317 West 45th St., New York 19, N. Y.; Executive Secretary, William J. Stevens, 317 West 45th St., New York 19, N. Y.

National Graphic Arts Education Association — John G. Henderson, President; Fred J. Hartman, Educational Director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Graphic Arts Exposition—International Amphitheatre, Chicago, September 11 to September 23, 1950. Headquarters for National Graphic Arts Exposition, Inc., at Room 802, 105 W. Monroe St., Chicago. President, A. E. Giegengack; Secretary, S. Frank Beatty, Graphic Arts Assoc. of Illinois, Chicago. During the period, September 11 to September 23, 1950, a number of Graphic Arts associations will hold their annual conventions as follows: Intl. Assoc. of Printing House Craftsmen, Hotel Stevens, Sept. 10, 11, 12 and 13, 1950; Intl. Typographic Composition Assoc., Sheraton Hotel, Sept. 14, 15 and 16; Printing Industry of America, Palmer House, Sept. 17, 18, 19 and 20, 1950; National Graphic Arts Education Assoc., Hotel Sherman, Sept. 21, 22 and 23, 1950.

National Printing Equipment Association, Inc. — 1949 meeting to be held at Hotel Biltmore, Los Angeles, Calif. Directors meeting, November 14; Members meeting, November 15. President, R. Verne Mitchell, Harris-Seybold Co., 4510 E. 71st St., Cleveland 5, O. James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — 1949 Conference, Hotel Statler, Boston, Mass., October 29 and 30. President, George F. Marshall, Mechanical Supt., Portland (Me.) *Press-Herald-Express*. Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conference — 1950 Conference, Hotel St. Paul, St. Paul, Minn. Tentative dates, March 10, 11, 12. President, Joseph J. Cory, Chief Composing Room Machinist, St. Paul (Minn.) *Dispatch* and *Pioneer Press*. Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference—1950 Conference to be held in San Francisco. Date to be announced later. President, Fred Gross, Mechanical Supt., San Francisco *Chronicle;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News*.

Pacific Society of Printing House Craftsmen — Annual conference in connection with International convention at San Francisco. Society session scheduled for Palace Hotel, Sunday, September 4, 1949. Secretary-Treasurer, R. W. Hardy, 71 Columbia St., Seattle 4, Wash.

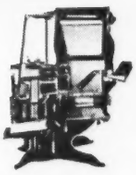
PNPA-NJPA Joint Mechanical Conference —1950 Conference to be held at Hotel Claridge, Atlantic City, N. J., April 14 and 15. Conference director, Theodore A. Serrill, PNPA Associate Manager, Telegraph Bldg., Harrisburg, Pa.

Printing Industry of America — Hotel Biltmore, Los Angeles, November 13-17, 1949. James R. Brackett, General Manager, 719 Fifteenth St. N. W., Washington, D. C.

SNPA (Eastern Div.) Mechanical Conference — Atlanta Biltmore Hotel, Atlanta, Ga., August 29 and 30, 1949. Chairman, Luther Wright, Mechanical Supt., New Orleans (La.) *Item;* Secretary, Tom Tanner, c-o SNPA, P.O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supply and Equipment Group, Owen W. Asbell, Ludlow Typograph Co., representative in Atlanta, Ga.

SNPA (Western Div.) Mechanical Conference—Chairman, George N. Guthrie, Pressroom Supt., Little Rock (Ark.) *Gazette;* Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex. 1950 Conference dates and meeting place to be determined later by Executive Committee.

Technical Association of the Lithographic Industry — (TALI)—1950 meeting scheduled for second week in April, Rochester, N. Y. President, Michael H. Bruno, Lithographic Technical Foundation, Glessner House, 1800 So. Prairie Ave., Chicago 16, Ill. Secretary-Treasurer, Geo. W. Wilhelm, 814 N. East Ave., Oak Park, Ill.



Linotype Research announces

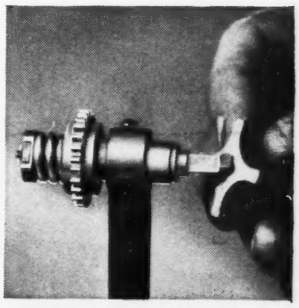
New developments to cut maintenance costs— simplify operation

HERE ARE some of the new improvements on Linotypes. These—and many more—are supplied at no extra cost *on all Linotypes now being shipped from the factory.*

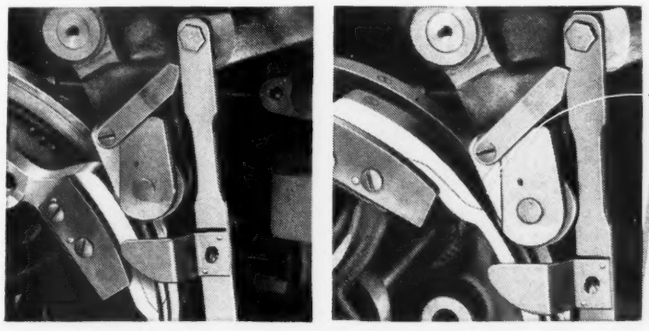
There is the new cam construction which completely eliminates wear on the pot pump cam surface . . . the cam roller rides only on hardened-steel shoes, avoiding any maintenance problems; a new adjustment on the pot pump spring allows simple adjustment of the plunger pressure from the front of the machine; the Linolizing* process for molds reduces mold maintenance and makes ejection smoother. These are but a few developments from Linotype Research which help lower your operating and maintenance costs.

But there are still *more* improvements . . . all designed to cut your costs . . . all resulting from Linotype Research. It is the intensive research carried on in Linotype laboratories which enables your Linotype representative to plan the most efficient composing rooms.

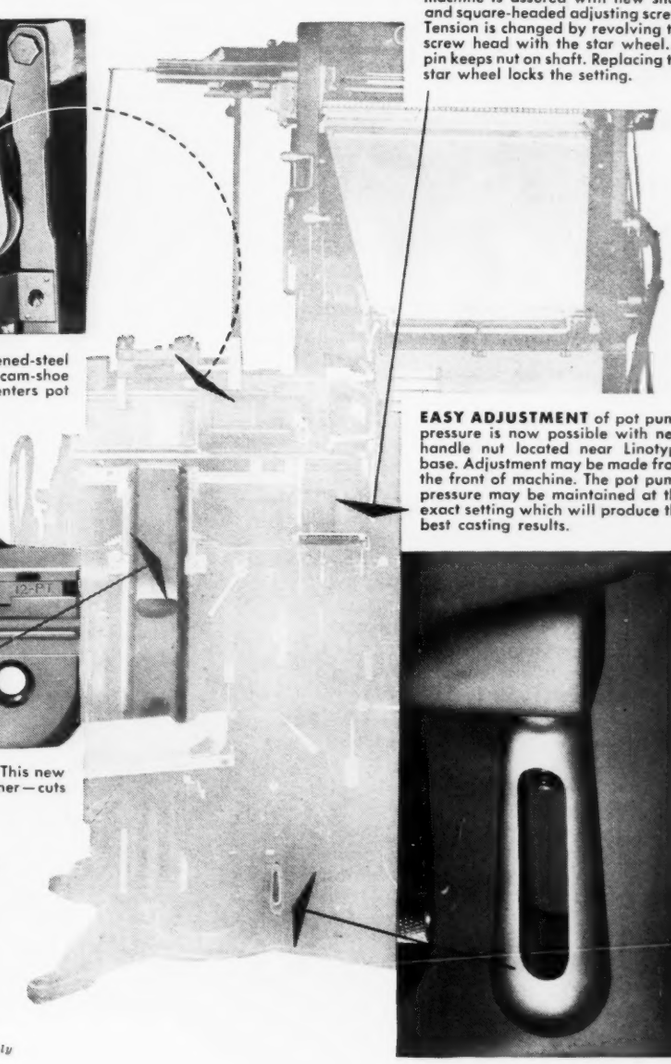
*TRADE MARK — SURFACE TREATMENT



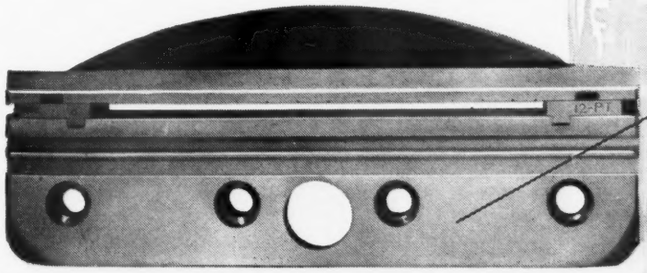
PERMANENT ADJUSTMENT of star wheel friction from the front of the machine is assured with new shaft and square-headed adjusting screw. Tension is changed by revolving the screw head with the star wheel. A pin keeps nut on shaft. Replacing the star wheel locks the setting.



TO REDUCE WEAR, pot pump cam roller makes contact only with hardened-steel shoes—surface wear of the cam is eliminated. The plunger is raised by cam-shoe action but returns to normal position before casting—no additional air enters pot throat. The photos show the roller in both lifted and contact positions.



EASY ADJUSTMENT of pot pump pressure is now possible with new handle nut located near Linotype base. Adjustment may be made from the front of machine. The pot pump pressure may be maintained at the exact setting which will produce the best casting results.



TO CUT MOLD MAINTENANCE, all Linotype molds are now Linolized. This new process prevents metal from fusing to molds and makes ejection smoother—cuts matrix damage. Linolizing is free on all new Linotype molds.

MERGENTHALER LINOTYPE COMPANY
29 Ryerson Street, Brooklyn 5, New York

LINOTYPE

LEADERSHIP THROUGH RESEARCH

Set in Linotype Times Roman, Erbar Bold Condensed and the Spartan Family

How to See Halftone Dot Fringe

(From *Reasearch Progress No. 7*, a publication of the Lithographic Technical Foundation)

FIVE main factors affect offset plate coating sensitivity. As discussed in *Research Progress* No. 7, a publication of the Lithographic Technical Foundation, these are: relative humidity; coating pH; coating and thickness; dark reaction; and continuing reaction.

A sixth factor determines the extent to which these five affect the size of the halftone dots produced on the plate. This is the amount of fringe around the dots in the negative or positive.

If the fringe is wide, the platemaker has practically no exposure latitude and the give factors will change dot size considerably. Exposures with such halftones must be precise if the tone reproduction of the plate is to be as it should. On the other hand, a narrow dot fringe permits an exposure latitude of as much as 100% with little effect on dot size.

All halftone dots are surrounded by fringe and the width of it varies according to how the negatives or positives were made. Direct camera halftones usually have the most. Dot etched halftones may have either more or less than a camera halftone. Halftones made by contact have the least.

Sometimes it is difficult to see this fringe with ordinary illumination even with a microscope. But if the illumination angle is changed the fringe can frequently be seen with a 10 or 15 power magnifier.

"Bright-field illumination" is the ordinary lighting for viewing magnifications. In this type of lighting the light is below the sample and in line with it and the lower lens of the microscope.

Sometimes, with bright field illumination a high contrast negative developed in high contrast developer looks like it has no fringe at all. But when the same sample is viewed with dark field illumination the dot fringe immediately shows up as halos of light around the dots. A negative or positive is viewed with dark field illumination when the illuminating light comes from one side of the sample at an oblique angle and the background area is dark.

This check for the amount of fringe in halftones is quite simple and is the first step in any attempt to control tone reproduction. Detailed information for lithographers who want to improve, and standardize the quality of their plates is available in LTF's Research Bulletin No. 15 "The Sensitivity Guide".

Sink Temperature Control System

A SYSTEM of accurately maintaining a different temperature at each of several dark room sinks scattered throughout the building, but utilizing circulating refrigerated water from a central tank, has more than fulfilled the expectations of its designers after more than 18 months of operation at the Toledo (O.) *Blade*.

Three sinks of the *Blade* system are in the engraving department, in which the refrigerating equipment and the storage tank to service the system are installed. Three additional units are in the photographic department some 300 ft. distant. The system involves some 650 ft. of piping, feed and return. One of the interesting features is that while the photographic department is air conditioned and kept constantly, year round, at a room temperature of 75 deg., the engraving department room temperature in summer rises on occasion well into the 90s, but despite this relatively great room temperature variable, engraving department units set at 65 deg. and 68 deg. apparently maintain that temperature at all times; photographic units set at 70 deg. and 72 deg. show no fluctuation on ordinary thermometers.

Heart of the installation is a ⅓ h.p. centrifugal pump which draws refrigerated water from the 150 gal. tank and circulates it through a closed system to the individual sinks. The virtue of a centrifugal pump is that in a closed system it has the characteristic of "skidding" when there is no demand, but maintains potential pressure at all times. Thus, when cooling is called for, the refrigerant is instantly available.

Sinks in the *Blade* system are functionally designed. In the photographic sinks, solution chambers are built in, sized to accommodate 4 in. by 5 in. cut film holders. In the engraving sinks solution trays are suspended from the sides, their bottoms immersed in about 1 in. of water, the purpose of which is merely to transfer the temperature from the sink proper to the developing and fixing solutions in the trays themselves.

Controls are identical at each of the sinks. They consist of a sensitive thermostat which—through a time-delay relay—actuates a solenoid valve. The relay proved necessary to obviate chatter occasioned by the high sensitivity of the thermostats. When sink temperature starts to rise, the solenoid valve opens and a charge of refrigerated water is circulated through its water chambers. When

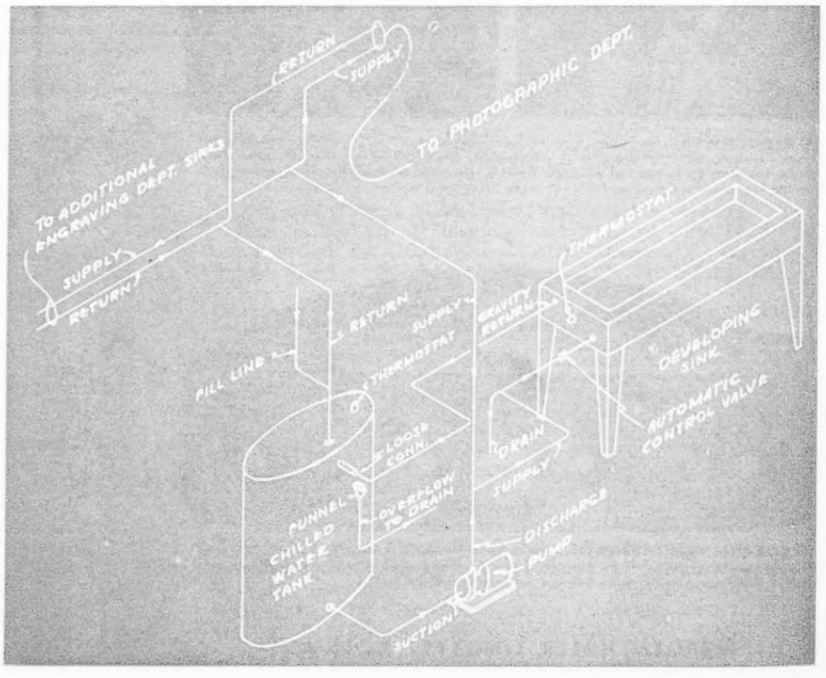
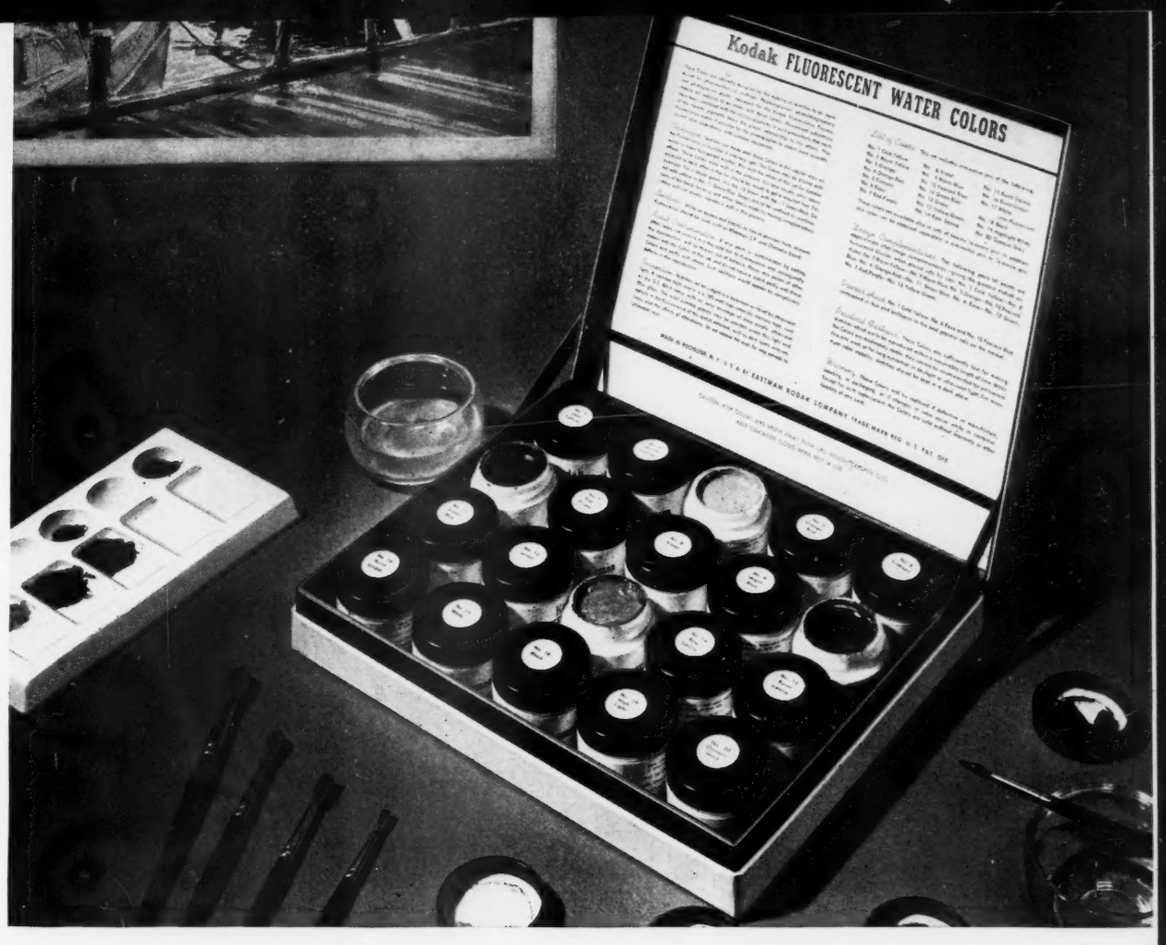


Fig. 1.—In this isometric diagram is shown the chilled water system in the plant of the Toledo (O.) ***Blade***. The system is used in the photoengraving and photographic departments for maintaining the temperature of the solutions used in the departments within definite limits. The trays containing, for instance, the developing solutions, are suspended from their sides and are immersed in about 1 in. of water. Heart of the water circulating system is a ⅓ h.p. centrifugal pump which draws refrigerated water from the 150 gal. tank to circulate it through a closed system to the individual sinks. Return is by gravity.

Kodak Fluorescent Water Colors are available from your Kodak Graphic Arts dealer in sets of twenty colors, either in one-ounce jars or in one-quarter-ounce jars.



FOR MAXIMUM SALES RETURN FROM ARTWORK

Use Kodak Fluorescent Water Colors

In the production of many books, book jackets, and direct mail pieces, the cost of water-color artwork and four-color process printing plates represents a substantial portion of your client's investment in the job. And, in today's market, where production economy without sacrifice of quality is vital, the Kodak Fluorescence Process is being used by many publishers and advertisers not only to reduce the investment in color work but, also, to improve dramatically the quality of the printed reproductions.

These publishers and advertisers are finding that they are also getting faster delivery of four-color process printing plates from water-color artwork prepared with Kodak Fluorescent Water Colors.

In today's competitive market, make sure your clients know the advantages of using the Kodak Fluorescence Process. Using Kodak Fluorescent Water Colors will insure that artwork prepared by your own or your clients' artists is keyed to standard process printing inks. Furthermore, such artwork is capable of more faithful reproduction by letterpress, lithography, or gravure.

For more detailed information about the Kodak Fluorescence Process and how it can help you get the maximum return in quality for your—and your clients'—investment in four-color reproduction from water-color artwork, write a postcard today to Rochester. At your convenience, a Kodak technical representative will be glad to call at your office to give you specific details.

Address a postcard, with your name and address on it, to Department 8, Eastman Kodak Company, Rochester 4, N.Y., for your free copy of this full-color booklet, "The Kodak Fluorescence Process for Automatic Color Correction."

Kodak Fluorescent Water Colors can be used by any experienced artist. They require no special equipment and only a slight change in technique.

GRAPHIC ARTS DIVISION
EASTMAN KODAK COMPANY
ROCHESTER 4, N. Y.

Kodak
TRADE-MARK

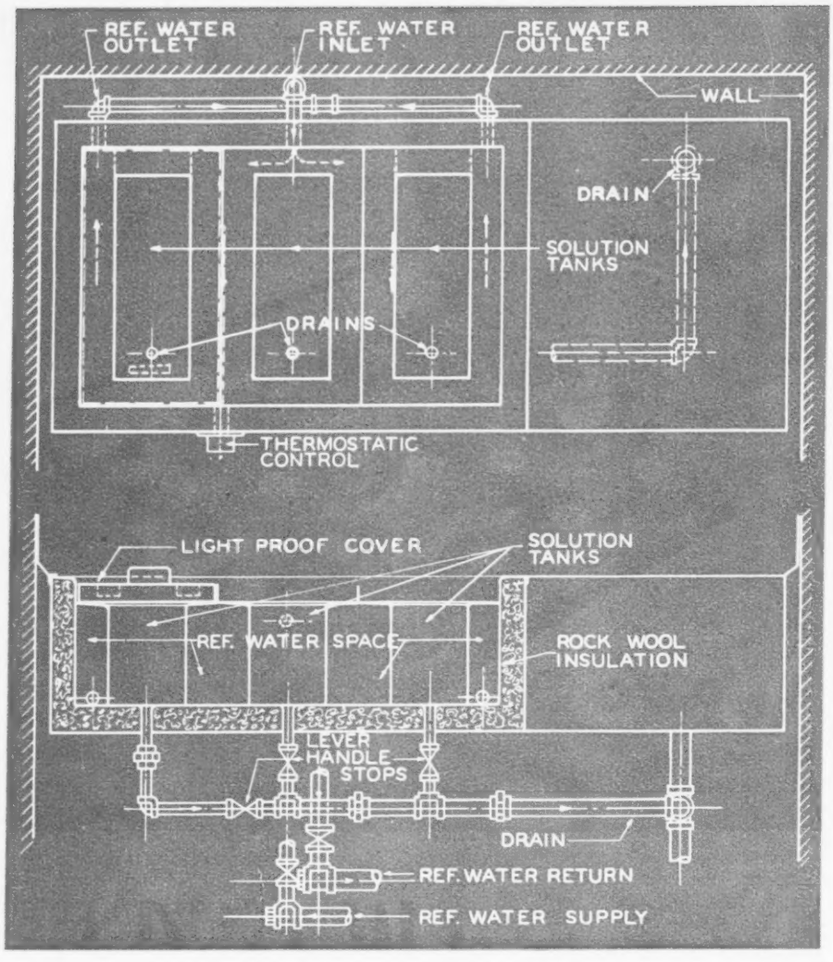


Fig. 2.—In the above section of this diagram is shown plan view of stainless steel photographer's or photoengraver's solution tray cooling sink, as built for Toledo (O.) *Blade*.

In the lower section is shown longitudinal view. Refrigerated water supply and return are plainly indicated as is the thermostatic control.

the temperature drops beneath the setting, the valve closes. The operation is that simple.

Originally, it was believed that some method of providing heating might be necessary for winter operation. In practice, however, this has not been found necessary, since building temperature provides all the warming effect needed.

Extremely low temperatures of the refrigerant water have not been found necessary. Even in the hottest summer weather, 58 deg. or 60 deg. is amply low; while during the heating season the refrigerant is carried at 65 deg.

A master system of temperature control instead of individually controlled units was chosen because of lower original cost and ease of maintenance. In a battery of similar or identical equipment, when a unit fails there is no urgency on the part of maintenance personnel to put it back in repair, it was reasoned. With a system, failure creates an emergency compelling immediate attention. With individual units there is always favored equipment with men waiting to use the piece they consider the best. In a system, all units, in theory at least, should function identically. Moreover centralized maintenance made possible by a system would pay dividends over scattered maintenance of individual sinks. *Blade* mechanical and maintenance personnel are satisfied that the decision to install a system instead of individual units was sound.

Overall scheme for the *Blade's* temperature control system was originally conceived by Paul Block jr., Co-publisher. Details were worked out by Don Wiley of the *Blade* staff and the system was designed by Gordon Frost of the engineering firm of Bellman, Gillett and Richards. Construction was under the general direction of Leo Long, Asst. Mechanical Supt.

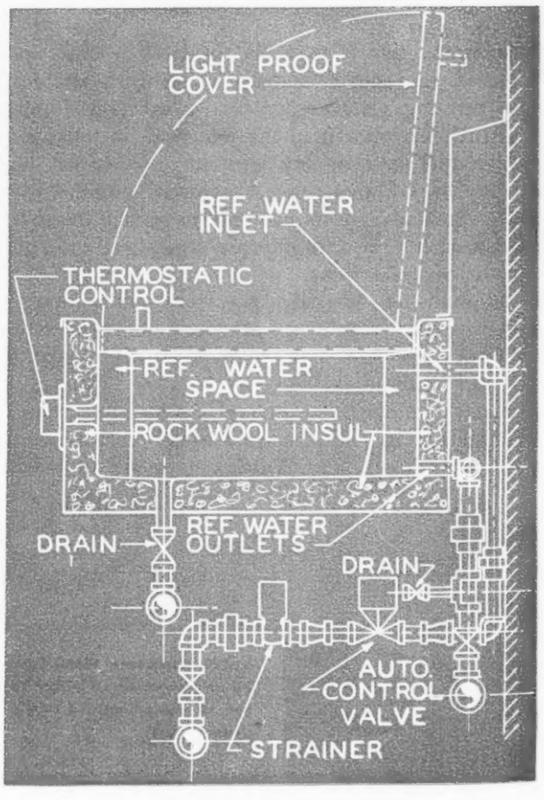
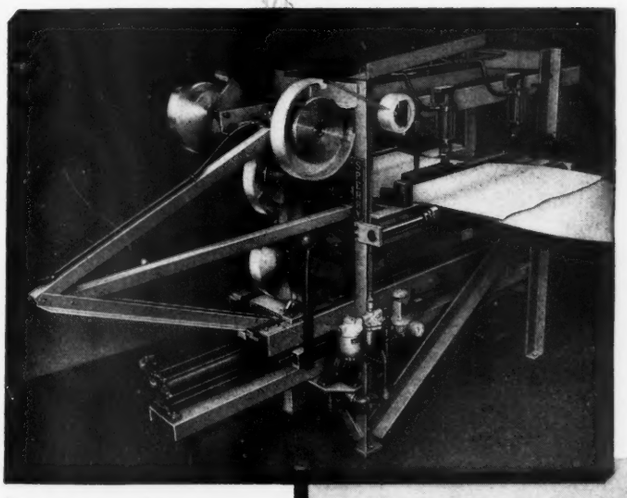


Fig. 3.—Here is cross-sectional view of sink (Fig. 2) designed for use in photoengraving and photographic departments of the Toledo (O.) *Blade*.

ITCA Changes Dates

The dates of the 30th annual convention of the International Typographic Composition Association have been changed to Thursday, Friday and Saturday, October 13, 14 and 15, 1949, according to a recent announcement by Frank M. Sherman, Executive Director. The change was made in order not to conflict with the dates of an important religious observance of Jewish members of the ITCA. A new Timetable of Events is being prepared and will be available soon. The convention is slated to be held at the Hotel Statler in Boston. Mr. Sherman anticipates the largest attendance at this convention in the history of the ITCA.

SPLICING DOWNTIME ...eliminated!



Sperry Automatic Butt Splicer

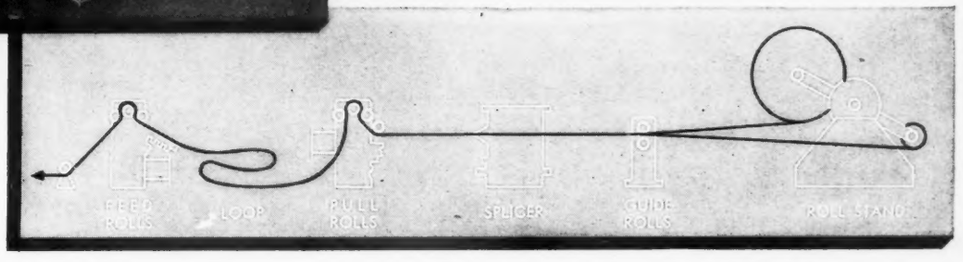
NOW YOU CAN BUTT SPLICE *on rotary web paperboard machines* WITHOUT STOPPING PRODUCTION

THE SPERRY AUTOMATIC BUTT SPLICER for rotary web board machines is a "must" if you want constant uninterrupted production.

Completely eliminates downtime for splicing.

Makes a clean, accurately cut butt joint, firmly taped at top and bottom.

Operation and complete installation of splicer unit and controls is extremely simple.



THIS IS WHAT THE SPLICER DOES:

- Clamps new and old web together, both sides of splice.
- Makes shear cut through both webs.
- Plows away waste ends of new and old webs.
- Presses webs to common level, applies tape top and bottom, all automatically in less than a second.

HERE IS HOW THE SPLICER SAVES YOU $:

- Makes splice without stopping printing operation.
- Eliminates web waste normal to stopping and starting.
- Limits web waste to narrow splice area and will pay for itself in "no time"
- Increases production hours.

Write for details

FORD INSTRUMENT COMPANY

DIVISION OF THE SPERRY CORPORATION LONG ISLAND CITY, N. Y.

Foremanship Training Course at RIT

JUDGING from reports received, the initial session of the two-week intensive foremanship training course at Rochester Institute of Technology was gratifying to the sponsors. Twenty-five men enrolled in the course and came from 16 cities in 9 different states. According to Byron G. Culver, Supervisor of RIT's Department of Publishing and Printing the course, which extended from June 13 to 24 inclusive, met with the decided approval of those who attended the sessions.

The breadth of the course of prime interest to mechanical executive is indicated by the following list of subjects: (1) Human relations, (2) Economic background, (3) Management and labor, (4) Rights and duties of a foreman, (5) Floor plan layout, (6) Costs and cost systems, (7) Production standards, (8) Production planning and control, (9) Quality control, (10) Making a technical study, (11) Conducting a conference, and (12) Technical horizons.

Originally, the program was suggested by Frank M. Sherman, Executive Director, Intl. Typographic Composition Assoc. In planning the course, RIT was assisted by Mr. Sherman; Harry Smith of Rochester Monotype Composition Co., and by Fred W. Hoch, of Fred W. Hoch Associates, New York, N. Y.

Discussion leaders included: Mr. Sherman and Mr. Hoch.

Frank Fessenden, Director of Training, Eastman Kodak Co.

Andrew Barta, Assoc. Professor Industrial Management, Syracuse University.

George E. Strebel, Exec. Secretary, Printing Industries Assoc. of Western New York, Inc.

Thomas P. Henry jr., President, Thomas P. Henry Co., Detroit.

Olin E. Freedman, Consultant to Management, Chicago.

Joseph Thuringer, Rochester Typographic Service.

Robert P. Easland, Coordinator, of Case, Lockwood & Brainard Div., Connecticut Printers, Hartford, Conn.

Vernon L. Gardner, Prod. Manager, The Leo Hart Co., Rochester.

Lee Augustine, Vice President, Printing Machinery Co.

Glenn C. Compton, Printing Specialist, Robbins and Barber, New York, N. Y.

Horace Hart, President, The Leo Hart Co., Rochester.

Considering the short length of time available before opening the session in which to promote the cause, *Printing Equipment Engineer* feels the initial session was successful in every way. We hope this course will become a permanent institution. It is sadly needed, particularly since production and mechanical executives in the field generally have never had very much, if anything, done to help them in their profession, especially in the so-called commercial branches of the industry. We hope, also, that employers in the ANPA or newspaper field will look with favorable eye upon the advantages to be secured through sending their foremen or embryonic foremen to future sessions. The problem of human relations and the relationship of management and the supervising executive have multiplied greatly in the past decade. It is no longer possible for either management or supervising executive to ignore certain fundamental essentials if profitable production is to be secured.

Metered Tank Trucks

Delivery of newspaper inks by tank trucks equipped with meters to register and record the amount of ink transferred from a truck to the customer's storage tanks, has been announced by Ralph C. Persons, General Manager of Geo. H. Morrill Co., Div. of Sun Chemical Corp. According to Persons, some of these trucks are equipped for multi-color delivery and have three separate compartments with a total carrying capacity of 2500 gal. An automatically printed receipt indicates gallon reading at start and finish, and gives each delivery an individual serial number, identifying the meter through which transfer was made. At the time of delivery, the temperature of the ink is recorded and the gallons converted into pounds, taking into consideration the temperature adjustment.

Federated Metals Visit

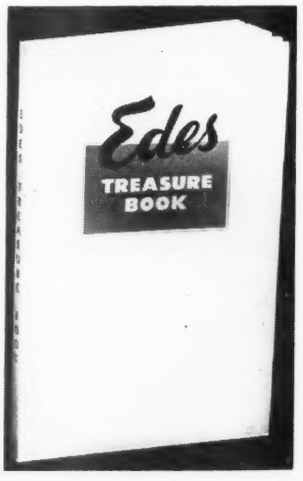
The Whiting, Ind., plant of Federated Metals Div., American Smelting and Refining Co., was host recently to a group of students from the Case Institute of Technology, Cleveland. The inspection tour was conducted by J. F. McQuillan, Plant Superintendent. Plant Manager at Whiting is Carl J. Gross. Inspection of solder, babbitt, type metal and lead alloy manufacture was seen.

Prize Winners Announced

Edes Mfg. Co.'s recent prize contest for short-cut engraving ideas, according that company, produced more than twice the number of anticipated entries. The majority of the ideas are practicable.

All the ideas—nearly 550 of them—have been published in the 162 page, *Edes Treasure Book*, which is now off the press and is available without charge to anyone connected with the photoengraving industry, on request to the Edes Mfg. Co., Plymouth, Mass.

The winners are as follows: 1st Prize: C. S. Shaler, Crystal Lake (Ill.) *Herald*; 2nd, L. W. Babbitt, Carroll P. E. Service, San Diego, Calif.; 3rd, Leroy F. Dyer, Wellesley (Mass.) Engravers; 4th

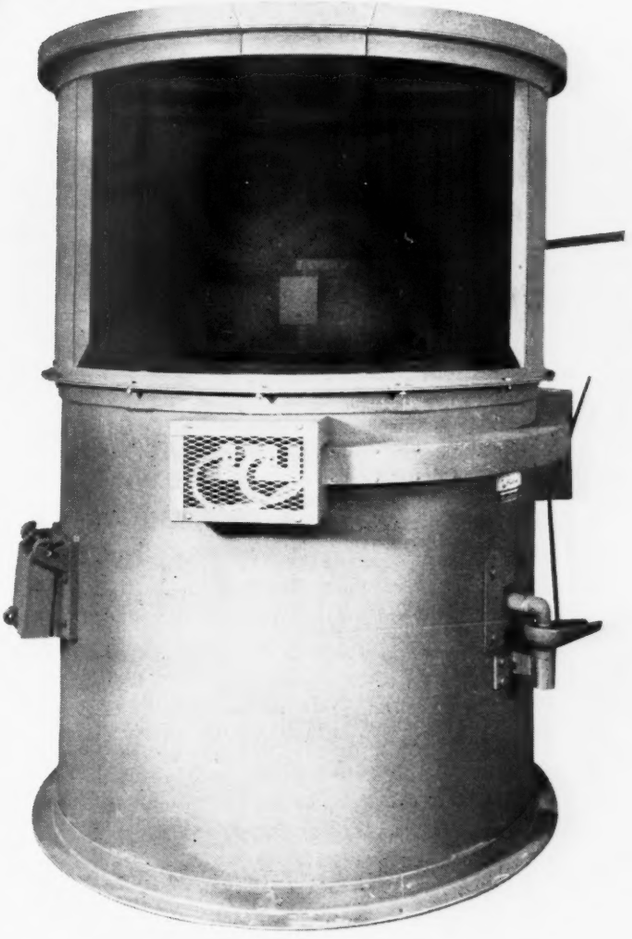


Albert M. Grier, Lincoln Engraving Co., Philadelphia; 5th, D. K. Rigney, News-Print Engraving Co., Chicago; 6th, Norman V. Plass, Graphic Arts Corp., Toledo, O.; 7th, Marvin N. Hough, Reliance Engraving Co., Richmond, Va.; 8th, John T. Richards, Bakersfield (Calif.) *Californian*; 9th, James E. Dybdal, Bismark (No. Dak.) Tribune Co.; and 10th, E. W. Thorpe, Dixie Engraving Co., Savannah, Ga.

Labor-Management Award — Harris-Seybold Co. recently received a joint labor management award from the Cleveland Chapter of the Society for the Advancement of Management. The company's human relations team receiving the news, are (left to right) C. C. Sorensen, Personnel Director; R. V. Mitchell, Board Chairman; Frank Kickel, Chief Steward, Local 725 UAW-CIO; and J. F. O'Donnell, President, Local 725. G. S. Dively, President of the company, was absent when the award was made. Development of Harris-Seybold's human relations program, according to Dively, is based on a continuing effort toward greater understanding and cooperation between all levels of management; building mutual respect and confidence throughout the organization; and more of a factual, rather than so much of an emotional approach, in dealing with the problems of business.

TYPEMETAL REMELTER

by LINDBERG-Fisher



...WITH NO OBSTRUCTIONS IN THE MELTING CHAMBER!

The Lindberg-Fisher typemetal remelter for gas, oil or electric installation—quantities from 1,000 lbs. to 10,000 lbs. No heating elements, muffles or obstructions in the heavy iron melting chamber. Hemispherically shaped pot allows easy cleaning and fluxing. Six inch insulating lining prevents heat loss. Self-closing pouring valve is located inside for greater safety. Temperature of the Monarch, whether gas, oil or electrically heated, is electronically controlled by meter-type pyrometers. Efficient ventilating hood for every Monarch meets all fume removal requirements.

FOR ELECTRIC HEATING . . . Nickel-chromium heating elements are located between furnace wall and melting chamber. Electronically controlled—completely wired for easy installation.

FOR GAS AND OIL HEATING . . . For fast heating and efficient combustion, the Monarch is equipped with a centrifugal blower, and the finest quality burners (nozzle mix burners for gas and 2-stage burners for oil). Safety pilot lights—ignited with a match—are provided for each main burner.

Available for immediate shipment. Write for Bulletin 101-A for full details.

LINDBERG Fisher Furnaces

LINDBERG ENGINEERING COMPANY, 2468 WEST HUBBARD ST., CHICAGO 12, ILLINOIS

Line Drive and Upright Gear Lubricating Problem Solved

By FRANK DASSORI*

**Pressroom Superintendent, the Detroit* Times.

IN AN attempt to find a lubricant that had more adhesive or tacky qualities for newly installed line-drive and upright gears on the presses of the Detroit *Times*, experiments were made which showed that the lubricants of the more desirable dense consistencies were impractical because of the difficulties encountered in application. In some cases pre-heating was required.

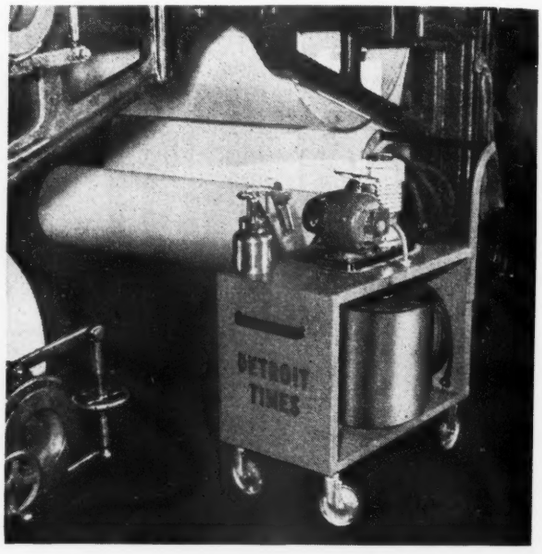
An oil company representative making the tests then proposed further experiments with the same lubricants liquified by the addition of a solvent that would evaporate within an interval of from 30 to 40 min. after application.

This new formula was tried on the open or uncovered gears and proved successful. As application to covered gears presented a problem. The idea of application by means of a paint spray was proposed. Successful tests were made with the grease in a stock spray gun by a retail hardware dealer. The gun, motor and compressor, plus an extra cup used for the gun cleaning solvent were purchased for less than $50.

The unit upon which it is mounted, complete with hand grips for lifting from one floor level to another, inside hooks for air pressure and electric cables, two rubber-tired stationary wheels and two of the caster type cost less than $75 built to order. The overall cost of the complete unit was less than $125.

It was necessary to drill 1 in. holes in all gear guards to permit insertion of the nozzle to apply grease.

The use of this unit will decrease gear wear because of the more complete application of the lubricant and at the same time decrease the amount of grease used because of the method of application.



View in reel room of Detroit *Times* pressroom showing the unit used for lubricating line-drive and upright gears. Overall cost of complete unit was less than $125.

Mid-year Calendar

Harris-Seybold Co. has published its annual mid-year calendar containing a painting by T. M. Cleland, entitled *Theatre*. The four-color reproduction begins a new series of four related pictures which Harris-Seybold has commissioned the same artist to produce for the coming four years. The painting is an imaginary interpretation in terms of small town life in contemporary America. Reproduced by offset, the new series is to be done in oil colors instead of the watercolor drawing technique of the former ones painted by Cleland for the company. A limited supply of the paintings is available for framing purposes, with suitable margins and without the calendar. Size is 22½ in. by 30 in. Copies may be obtained by writing the Harris-Seybold Co., 4510 East 71st St., Cleveland 5, Ohio.

Tackles Fussy Jobs

(Abstracted from an article appearing in *The Christian Science Monitor* by Staff Writers Tully Nettleton and Kimmis Hendrick.)

ON THE West Coast, at least one new plant has got a substantial start since the war by making a business of solving other people's printing problems. This is the firm of Scott and Scott in Santa Monica, Calif.

Wesley and Wayne Scott are brothers and veterans of World War II, who hung out their shingle as job printers in December 1946. Wesley Scott had been with a nationally known lithography concern for eight years. Wayne, who was discharged from the army in 1946, had been in the accounting department of a large oil company.

They hit upon the idea of offering to do printing jobs that were hard to do—things that needed special attention. Their first important contact was with one of the big airplane manufacturers. The firm had been having trouble getting production order blanks printed accurately. Scott and Scott offered to do the job right—at the price the company had been paying. They did it right and still have the company's business.

To start with, they had $2000 of their own and a GI loan. They rented a shop that covered 1000 sq. ft. Recently, when they were desperate for more room, their landlord built a new building that gives them 2500 sq. ft. of floor space. Biggest outlay for equipment was a Miehle vertical press.

The brothers put it down as their first rule that they must think everything through. Another is the brothers' decision to hire someone to set up their books and do it right. Wayne Scott says they know every month where every penny comes from. For the first two years they took a complete physical inventory every 30 days.

Another instance of their approach, is the firm's sizing up of the current market situation. "It's a buyer's market now, and will be one increasingly," Wes Scots says. "You've got to increase your sales effort. We believe the way to meet it is positively not to cut back or fire people."

Accordingly, the Scotts are increasing their selling job. Experience has convinced them that their A-1 promotion medium is personal selling. While Wayne supervises the shop and the books, Wes sells. And their estimator is out selling part of the time. They also find that direct mail, including good form letters to new businesses in the growing Santa Monica area, helps to build business.

"Our work", Wes Scott says, "isn't on a job basis. It's on a customer basis." Both brothers are convinced that if you satisfy the customer, solve his problems, tackle the tough assignments rather than look for the "fat, easy" jobs, your business will grow and keep growing.

Burns Joins Scott

Walter Scott & Co., Inc., announces that Arthur H. Burns, until recently Mechanical Superintendent of the New York *Herald Tribune*, will join the Company as Special Representative. Formerly, Burns was also associated with Lockwood Greene & Co. He will assist publishers and their architects in building and press equipment plans as well as on other problems of newspaper production.

it's **GOSS** *again*

NEW HEADLINER PRESSES AT THE DES MOINES REGISTER AND TRIBUNE

Another Goss installation has been completed at The Des Moines Register and Tribune — the sixth since 1922. The latest equipment comprises eight new Headliner units with five color units and two Uni-Flow folders.

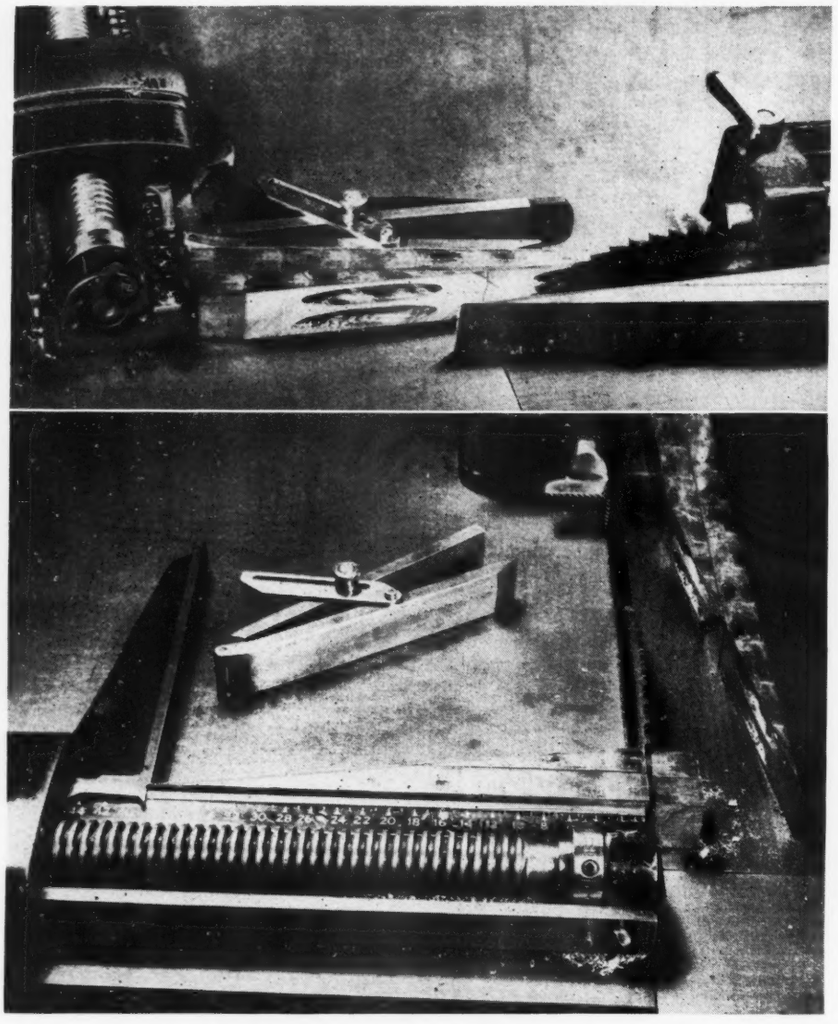
The Register and Tribune now has 30 Goss units and an 8-cylinder Goss Multi-Color press. These are all in operation contributing to a total production of more than 362,000 copies daily and over 500,000 Sunday.

The new Headliners give The Register and Tribune the advantages of continuous feed ink system for quality printing . . . flexibility of color production for added service to advertisers and attraction to readers... Uni-Flow folder delivery to assure neatly folded papers . . . streamlined unit styling for safety, improved appearance, and cleanliness with full accessibility . . . preloaded cylinder and form roller bearings and fully enclosed automatic lubrication for smooth operation at high speeds.

You are invited to inspect the advantages of Goss equipment as demonstrated at The Des Moines Register and Tribune and other leading dailies throughout the world.

THE GOSS PRINTING PRESS COMPANY, 1535 S. PAULINA ST., CHICAGO 8

Duplex Division: Battle Creek, Michigan • Goss Printing Press Co., Ltd., Preston, England



Speedangle Printers' Angle Gauge (or Bevel) — For use by compositors in assembling cuts and/or type matter at an angle. Much of the angular work necessary in advertisement composition can be executed quickly with this tool. Bases for cuts may be cut-in at correct angle to accommodate type matter inserts. The tool shown in the accompanying illustrations was devised by V. C. Shidler, a practical printer, 720 Milford St., Glendale 3, Calif. The gauge is substantially constructed of Dural metal, is 5 in. length, weighs 3 oz., and the bevel has a range from 1 deg. to 45 deg.

In the upper illustration, the Speedangle angle gauge is shown in position against the adjustable finger of the saw-trimmer work-holding gauge. Two lengths of Monotype or Elrod 36 pt. base have been cut lengthwise through the base to form one side of a mortise for a block of type matter to be inserted in an advertisement at an angle. The waste portion of the two 36 pt. slugs is usable to form the complementary angle on an other side of the mortise.

In the lower illustration, the two lengths of base which have been cut to proper angle now have been cut to correct length to fit one side of the mortise. The waste portion of the base shown at right can now be cut or trimmed to supply the complementary pieces for another side of the mortise.

Use of the Speedangle Angle Gauge by the printer in transferring angles from copy to saw-trimmer is obvious and won't be described here.

Proceed with Addition

Ground was broken on July 5 for an addition to The Southern School of Printing, Nashville, Tenn., which will house a lithographic department for the apprentice school.

A Campaign was started one year ago by the Southern Graphic Arts Assoc., sponsors of the school, to raise $60 thousand by donations from commercial printers, newspapers and publishers. The fund is still about $12 thousand short of the goal but the building committee, composed of A. J. Baird of Baird-Ward Printing Co., Nashville, Tenn.; Morris W. Davidson of the *Courier-Journal* Job Printing Co., Louisville, Ky.; W. Ezell Craig of Brandau-Craig-Dickerson Co., Nashville, Tenn.; S. Toof Brown of S. C. Toof & Co., Memphis, Tenn.; and Harry F. Ambrose of E. T. Lowe Publishing Co., Nashville, Tenn., decided to go ahead with the construction work.

When completed, the training facilities of the present letterpress department will be expanded along with the addition of the new department as 50% more floor space will be realized.

This school, which specializes in the training of apprentice printers, has graduated more than 3200 young men and women for the industry since it was founded in Nashville, Tenn., in 1919.

Chicago Elects

Roy J. Kirby was elected president of the Chicago Craftsmen's Club at the annual June election. Frank Bartojay was named first vice president; George Skach, second vice president; and Arthur S. Colton was named treasurer. Re-elected to their positions were Frank Pugliese, recording secretary and Michael Ivers, financial secretary.

Delegates and alternates to the San Francisco Craftsmen's convention in September were also elected. Junior Past President Charles Duval presented retiring president Joseph Skach with a gold watch engraved with the Craftsmen's emblem and a message of appreciation for his excellent services as president during the past year.

The Challenge Machinery Co. has announced the assignment of Paul E. Babcock to the sales department as traveling representative. Mr. Babcock joined Challenge in 1935 immediately after graduation from the University of Michigan with an A.B. degree. He first worked in the printing department at Challenge and later in the purchasing department. In the latter department he was assistant to the purchasing agent and then purchasing agent.

Awards for Excellence in Printing Studies

PRINTING Equipment Engineer is awarding one annual subscription gratis to each of a selected number of printing technical schools in the United States. By this means it is hoped to add incentive to students to do excellent work while taking their courses.

The supervising head of each printing technical school shall designate for what subject the subscription shall be awarded.

The award shall be made by the supervisor.

The award shall be made only for excellence in some subject related to the Graphic Arts course or courses available in the school.

At his discretion, the supervisor may set up a committee for the purpose of determining to which student the subscription shall be awarded at the end of the school year.

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Reworking Mouthpiece Vent Slots

MAINTAINING proper shape and depth of vent slots in Intertype and Linotype pot crucible mouthpieces calls for carefulness upon the part of the machinist. As time passes and the mouthpiece has been faced off a number of times, the slots will lose depth. Restoring the depth, together with sufficient opening at the lower part of each slot to permit maximum escape of air from the mold should be done carefully. The ideal condition, of course, is to maintain the original segment-of-a-circle shape. The inside surfaces of the slot should be smooth, too, without chisel marks or creases. Vent sprues on the average machine should not exceed ¾ in. length. If the sprues are much longer, trouble will be encountered with "spitting" metal which may foul the mouthpiece apron, the back of the disk, the back knife, and causes excess metal trimmings which must be cleaned away at frequent intervals. If the slots are too shallow, of course, insufficient air will escape from the mold and the slugs will not be of sufficient solidity.

A set of tools for maintaining the correct depth and proper opening of mouthpiece vent slots has been devised by James J. DeVinney, 731 York Court, San Diego 8, Calif. Mr. DeVinney is a practical machinist and is associated with the San Diego (Calif.) *Journal*.

View of DeVinney line-composing machine pot crucible mouthpiece vent slot tool. Point at lower left deepens slot to original depth and shape. Point attached to punch itself is for deepening lower part of vent slot only. Cone shaped tool (second from right) is a flat-faced tool for closing lower end of vent slot.

Mr. DeVinney purchased one each Starrett Nos. 18AA (large size) and 18A automatic adjustable-stroke center punches. The No. 18A is shown in the accompanying illustration. Both center punches are equipped with a hardened

steel center punch point which is screwed into the punch body (sixth illustration from the left). These are removed.

The larger punch is fitted with two special points. The chisel point at extreme left is turned from 5/16 in. drill rod and with the shank is about 11/16 in. long. The screw shank itself is 3/8 in. long and the body of the chisel section is 5/16 in. long. The chisel point is shaped so that its business end conforms to the curvature of the vent slot when new.

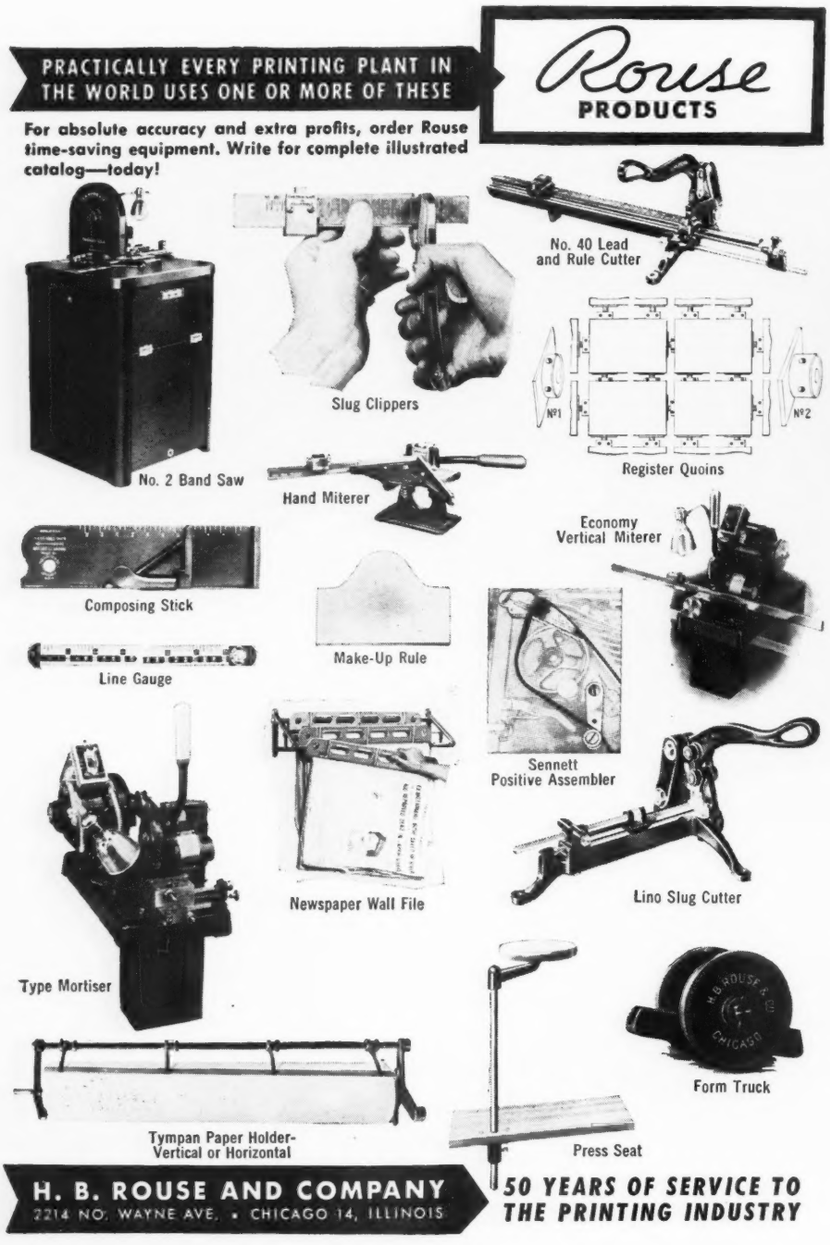
The fashioned rod point (as are the other points) is heated to a cherry red and quenched in water; then the point is brightened and the temper is drawn from the screw-thread end to 1/8 in. from the cutting edge of the point, after which it is immediately quenched in water.

The other point for the large punch (18AA) which is the fifth illustration from the left in the accompanying halftone, is also made from 5/16 in. drill rod. It measures 7/8 in. in length; the screw thread section is 3/8 in. long and the conical portion is 1/2 in. long. The frustum thus tapers from 5/16 in. to 1/16 in. face at the top of the base. This point is hardened in the same manner as described above for the chisel point. The flattened-point is used to close the lower part of the vent slots in case slots have been opened too much and permit excess metal to escape through the mouthpiece slots at the time of the cast.

The point shown attached to the smaller (18A) automatic punch is made from 1/4 in. drill rod. It is hardened the same as the points which are used in the larger punch. This chisel point is employed to open the bottom only of the vent slots and is ground at approx. a 60 deg. included angle. Its threaded shank is 1/4 in. long and the chisel section is 3/16 in. long, making a total length of 7/16 in.

The second illustration from the left is the spring which has been removed from the small punch (18AA). The spring is wound from 0.025 music wire, is about 1/4 in. o.d. and 7/8 in. length. Mr. DeVinney cut off about 1/8 in. length so that the spring is 5/8 in. long, the spring which came with the punch being too strong for the work involved—*i.e.*, the slight opening of the vent slots at the bottom.

The fourth illustration from the left is a holder for grinding the various tool points. It is 3 in. long and is turned from 1/4 in. drill rod. The center part of the body is knurled. The upper (dark) end of the holder is drilled and tapped for screw thread to accommodate the two larger points. The lower end is drilled and tapped to hold the smaller points while grinding to sharpen the edge.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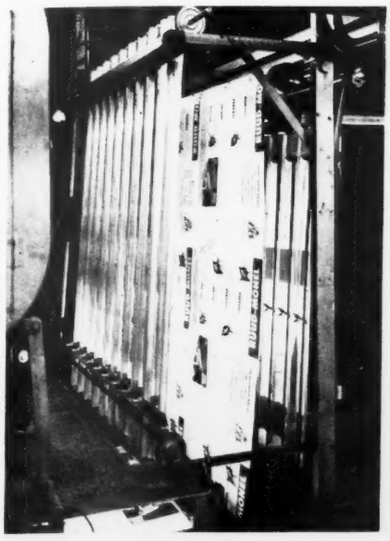
50 YEARS OF SERVICE TO THE PRINTING INDUSTRY

The ones that didn't get away or a good day's catch. This is perhaps what Mr. and Mrs. Walter R. Gebhard, extreme left and right, told their friends. Mr. Gebhard is President of Los Angeles Type and Rule Co. They are pictured on vacation at Mazatlan, Sinoloa, Mexico with one day's catch of 6 sail fish and 2 marlin. The two Mexicans in the foreground appear as proud of the catch as Mr. and Mrs. Gebhard.

Glenn Baker, Mechanical Foreman of the El Reno (Okla.) *American*, has received a direct commission as a first lieutenant in the officer's reserve corps, as a printing and reproduction specialist in the adjutant general's department of the army. Baker has been in the printing trade for the past 11 years. Prior to joining the *American* in June, 1946, he had been employed by newspapers and commercial plants in Enid and Woodward, Okla., and was at one time manager of

the printing department of Southwestern Stationery and Bank Supply of Ponca City, Okla. He attended Phillips University. He saw service in the European Theatre of Operations during World War II.

Frederick B. Heitkamp, Vice President of ATF, Incorporated, has been elected by the American Management Association as vice president of the marketing division.



View showing installation of Chromalox enclosed tubular type heating elements mounted in movable frame on a Webendorfer 8-unit web-fed offset printing press. A bank of nine heaters is attached on each side of the web at a point just preceding the cutting. In this view, the heaters have been drawn away from the 35 in. printed paper web while the press is idle. When the press is started again, the heaters will be moved close to the web which, it is stated, travels at 500 ft. per min. Eighteen Chromalox RAD-418, 230 v., 1800 w. electric heaters are used in this installation. Heaters are interlocked and bolted to angle irons. Frame is supported on geared wheels which roll on a track. Automatic operation and an exhaust system have been installed.

Printing Equipment Engineer will help you find where you can get it—equipment, supplies—for all branches of the Graphic Arts industry. Send in your request.

Gravure Research, Inc.

C. J. Murray, General Manager, Gravure Div. of Triangle Publications, Inc., Philadelphia, was elected President of Gravure Research, Inc., at its second annual meeting, held at Battelle Memorial Institute, Columbus, O.

James Noel, Detroit Gravure Corp., was elected First Vice President, and M. J. Tiernan, Art Gravure Corp. of Ohio, was named Second Vice President. W. H. James, New York *Daily News*, was re-elected Secretary-Treasurer, and J. Homer Winkler, Battelle Institute, was appointed Assistant Secretary.

Newly elected Directors are James V. Noel, Detroit Gravure Corp., and M. J. Tiernan, Art Gravure Corp. of Ohio, Cleveland. Directors whose terms continue from last year include M. George Martin, Standard Gravure Corp., Louisville, Ky.; W. H. James; and J. E. Hazel, Art Gravure Corp., New York, N. Y.

During the past year, most of the research for the organization has been concerned with the processing of carbon tissue. Evaluation techniques, such as devices for measuring penetration time, analytical procedures for determining the amount of dichromate in sensitized tissue, and other analytical methods to measure the changes which occur in carbon tissue during processing, have been devised.

Time of immersion, usable life of a sensitizing bath, change in acidity during sensitizing, and methods of controlling changes in acidity have been studied. It was reported that promising methods of controlling acidity of the bath are under development, and specific recommendations were made. A more complete understanding of the phenomenon of dark reaction is expected to result from chemical studies now in progress.

In addition to the aforementioned, membership in Gravure Research, Inc., includes: Art Color Printing Co., Dunellen, N. J.; Chicago *Tribune*; C. T. Dearing Printing Co., Louisville, Ky.; R. R. Donnelly and Sons Co., Chicago; Intaglio Service, Inc., New York, N. Y.; Intaglio Service Corp. of Illinois, Chicago; and Kable Brothers, Mt. Morris, Ill.

ONLY *Rouse* HAS A POWER MITERER FOR EVERY JOB!

From the smallest job shop up to the largest plant, only Rouse makes a Power Miterer for every type of use.

The full range of Rouse Power Miterers consist of:

I-II The Economy Hand Clamp Models with ranges of from hairline to 24 point, and from hairline to 36 point.

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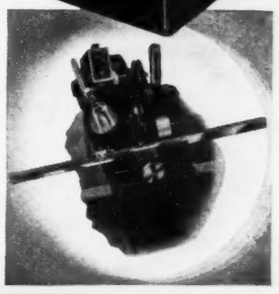
Any Rouse Power Miterer may be bought as a bench model or with any other equipment you desire.

A Rouse Miterer does the work of hours in minutes—and perfectly!

Just tear out this ad and mail with your letterhead and name for illustrated folder on this and other Rouse time-saving equipment for printers.



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COMPOSING STICKS
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BAND SAWS
LEAD and RULE CUTTERS
TYPE GAUGES

EXECUTIVE Cs

Malcolm O. Brewer has been appointed Sales Manager of the Printing Machinery Div., Electric Boat Co., according to an announcement made by Harold W. Gegenheimer, Division Manager. Prior to joining EBCo., Brewer was vice president and Eastern manager of Vandercook and Sons, Inc.

He became Eastern District Manager for EBCo. in 1947. He is a former President of the Printers Supply Salesmen's Guild, a member of the Board of Governors of the New York Club of Printing House Craftsmen, and a member of the Young Printing Executives Club and the Sales Executives Club.

Malcolm O. Brewer, Sales Manager, Printing Machinery Div., Electric Boat Co.

Edgar H. "Ted" Wolfe has been named President of The Barrett Bindery Co., Chicago, according to recent announcement. Wolfe became vice president and general manager of the company in 1930, and will continue as general manager. He attended Northwestern University and is a member of the Chicago Club of Printing House Craftsmen. It was also announced at the same time that A. M. Barrett, son of the founder and head of Barrett-Cravens Co., has been elevated to Chairman of the Board. Other officers who were elected by the directors are: William Muir, Vice President; E. A. Smith, Treasurer; (Miss) D. M. Treasurer, Secretary.

Edgar H. (Ted) Wolfe, named President of Barrett Bindery, Chicago.

Richard A. Crain has been appointed a sales representative of R. Hoe & Co., Inc., according to an announcement by Arthur Dressel, the printing press manufacturer's executive vice president and general sales manager. Mr. Crain will work out of Hoe's Boston office. Mr. Crain is a graduate of Boston University and served during the war with the Quartermaster Corps being discharged with the rank of Captain. Recently he has been associated with several New England enterprises in the Graphic Arts field where he became familiar with printing equipment and problems of printing production. He is a resident of Lexington, Mass. Mr. Crain's father, O. L. Crain, has long been associated with R. Hoe & Co., Inc.

Hoe's New England representative, Richard A. Crain, works out of Boston office.

There Will Be Singing In San Francisco

There will be singing in San Francisco when the International Association of Printing House Craftsmen meet for their 30th International Convention, because this is always a joyous occasion.

These same fellows will tell you that it is also a joy, when on the job, to work with smooth running, trouble free equipment. The M. L. Abrams Company has been specializing, for over a quarter of a century, in making ordinary used printing machinery into smooth running, trouble free, equipment through their special process of "Remanufacturing".

CHOOSE ANY OF THESE MACHINES WITH CONFIDENCE

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12 x 18 C & P Rice Unit. Latest style, like new Save $500.

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M24 Hand Feed. Sheet size, 9 x 14.
Kelly B with Extension Delivery.
No. 2 Kelly, sheet size to 24 x 35.
Miller Major, 27 x 40.
Miller High Speed with Rollback Feeder.
No. 4 Miehle, hand feed, 28x40.
No. 3 Miehle, hand feed, 34x49.
Dexter Stream Feeder for No. 3 Miehle.

DIE CUTTING

Thompson Embossing Press, 12 x 18 eccentric action.
Babcock, Special die cutting press for heavy board up to 37x52.

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Multilith Model 1250.
Webendorfer, sheet size 17x22. Image 16½ x 21¼.
Harris, Model LF, 44 x 64 with Ext. Delivery.
Harris, S8L, 28 x 42 with Positive Delivery.

COMPOSING ROOM

Model 14 Linotype, single keyboard.
Model 1 Linotype. Single magazine. Priced low.
Model K Linotype. Two magazine. Priced low.
39 x 65 Iron Top Imposing Table.
Hacker Plate Gauge.
Amsco Vertical Rotary Miterer.
Miller Universal Saw Trimmer.
Hammond A3 Trim-O-Saw. Saws, routs, drills, jig saws, type high planes and miters.
Rouse Band Saw. Large model.
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STEREOTYPE

Shaver. Ostrander Seymour, full page.
Wesel Rougher, 19 x 32.
Hoe Mat Roller, full page.

PAPER CUTTERS

26½" C & P Latest model. Like new. Save $100.
30½" Challenge Lever Cutter. Solid base.
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40" Seybold 10Z, Auto.
44" Oswego Auto.
45" Seybold Dayton.
35" Ganes Board Shear.

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Model E Cleveland Folder, 17 x 22, with Friction Feed.
Model B Cleveland Folder, 26 x 40, with Swart Continuous Feeder.
Aldrich Folder. Sheet size 14 x 19. Three fold.
38 x 50 Dexter Folder. Hand feed, 32 page.
No. 2, No. 3, No. 4 Boston Stitchers.
Dexter Gang Stitcher with 2 heads, 5 stations.
24" Rosback Pony Rotary Round Hole Perforator.
28" Rosback Power Vertical Perforator with Feed Gauge.
Wright Multiple Drill with 5 heads.
Challenge Model E Drill. Foot actuated.
Portland Power Punch, gear driven.

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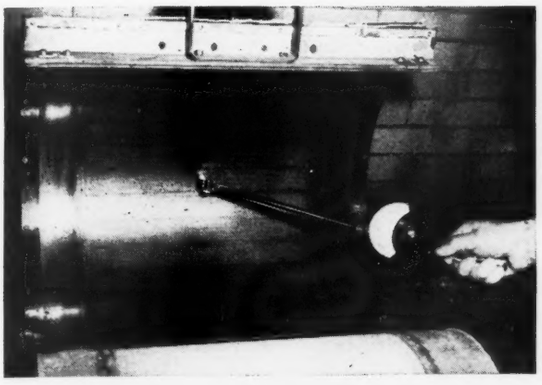

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The Pyrometer For Accurate Surface Temperature Readings of . . .

- Stereotype Mat Formers
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- Stereo Casting Boxes
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- Immersion Temperature Determination of Molten Type Metals

The ALNOR PYROCON with interchangeable surface or immersion thermocouples is adaptable for use where temperature must be closely maintained.

ILLINOIS TESTING LABORATORIES, INC.

420 N. LaSalle St. Chicago 10, Illinois

Roy J. Kirby, Chicago Branch Manager of the American Type Founders Sales Corp., has been elected president of the Chicago Club of Printing House Craftsmen. Kirby was a charter member of the Denver Club of Printing House Craftsmen, organized in 1923, and he belonged to the San Francisco club from 1934 to 1942, when he transferred to the

Roy J. Kirby, ATF Chicago Manager, now president of Chicago Craftsmen's Club.

Chicago unit. He served as educational chairman of the Chicago club in 1944, 1945 and 1947, and was first vice president in 1948.

E. Rene Leach, Assistant Manager of the Pacific Coast Agency of Mergenthaler Linotype Co., has been named manager of the Midwest Agency in Chicago, succeeding Martin J. Leonard. At the request of Linotype officials, Mr. Leonard has postponed his retirement until later in the year but will serve as

Linotype's new Chicago Agency Manager is E. Rene Leach.

©Bachrach

consultant. Mr. Leach became associated with the printing trade at the age of 14, working as a printer's devil after school and during vacations in the plant of the Sullivan (Ind.) *Daily Times*. He was admitted to the International Typographical Union when 17 years old as a journeyman Linotype operator and worked on the Kokomo (Ind.) *Dispatch* and the Logansport (Ind.) *Morning Press*. He attended the University of Indiana. Joining the Pacific Coast Agency in 1930, he represented his company in virtually all parts of that agency's territory, including Alaska. Mr. Leonard learned the printing trade and the Linotype with the Buffalo (N.Y.) *Union* and *Times*. He has been associated with Linotype since 1921 and has been Chicago agency manager since March 1946.

European Tour—First stop of foreign tour was made in London by R. V. Mitchell (center), Chairman of the Board of Harris-Seybold Co.; and C. W. Harrold (left), Vice President in Charge of Engineering. The two executives were greeted by their English host, R. R. "Kim" Horne (right), head of Smyth-Horn, Ltd., British representatives for the Harris-Seybold firm. Mitchell and Harrold joined forces with L. R. Beck and Frank Gilbert, Harris-Seybold Export Manager and Service Representative respectively, to tour the Continent in a survey of new developments in the European printing and publishing field.

Frank J. Blechta, jr., has joined the sales staff of Roberts & Porter, Inc., according to an announcement by Hugh R. Adams, jr., President. Blechta has been associated with the Huebner Laboratories in New York and Chicago for the past three years. He previously served both in the Merchant Marine and U. S. Naval Reserve.

Sampson R. Field, President of Publishers Printing Co., Inc., New York, has announced that Edgar L. Budden, who has served as his assistant since last January, will assume the additional duties of Plant Manager early in September. In 1934, Budden became associated with the Willard Press Co. where he helped to design and build the first Willard presses. In 1937 as assistant superintendent, Printing Div., Reynolds Metals Co., he helped operate a plant turning out specialty multicolor letterpress and gravure printing. He served from 1939 to 1942 with R. Hoe & Co. as a design engineer on magazine and offset presses. He is a veteran of World War II and has attended New York University, Polytechnic Institute of Brooklyn and the Lithographic Technical Foundation. Prior to his appointment at Publishers, Budden was associated with Doubleday & Co.

Edgar L. Budden, appointed Plant Manager of Publishers Printing Co., Inc.

Donald C. Cottrell has been elected president of C. B. Cottrell & Sons Co., manufacturers of sheet-fed and web rotary presses, rotogravure presses and electrotype and platemaking machinery. Cottrell, who has been vice president in charge of the company's Claybourn Division in Milwaukee, will make his headquarters in the home office at Westerly, R. I. He succeeds his cousin, Charles P. Cottrell, jr., who becomes chairman of the board. The new president is a grandson of C. B. Cottrell, who founded the company in 1885.

New President of C. B. Cottrell & Sons Co. is Donald C. Cottrell.

The Champion Paper and Fibre Co. has announced the appointment of Everett E. Henning to the St. Louis Sales Office. Mr. Henning is a graduate of Washington State College. He began his career with the Zellerbach Paper Co. in 1930. He served with the Armed Forces during World War II and was discharged with the rank of major. In 1946 he joined the Central States Paper and Bag Co. as manager of the Fine Paper Dept.

Everett E. Henning, now with St. Louis Office of Champion Paper and Fibre.

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IMPOSING TABLES
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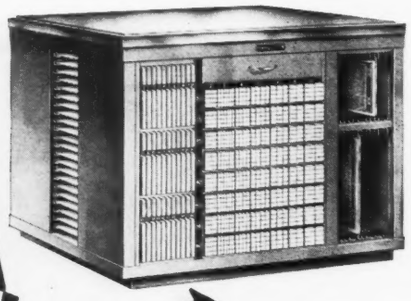
PRODUCTION
equipment



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With Hamilton Imposing Tables you're set for years of profitable production for Hamilton quality appears in every detail from the precision-ground tops to the modern, attractive, metallic-gray finish that outlasts finishes of all other types.

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Look at These Features!

- **Sheet sizes 3¼ x 5½ to 13 x 20; Speed range from 2200 to 3800 IPH**
- **Good accessibility for faster, easier make-ready**
- **Simple vacuum feeder—separate control—quick change**
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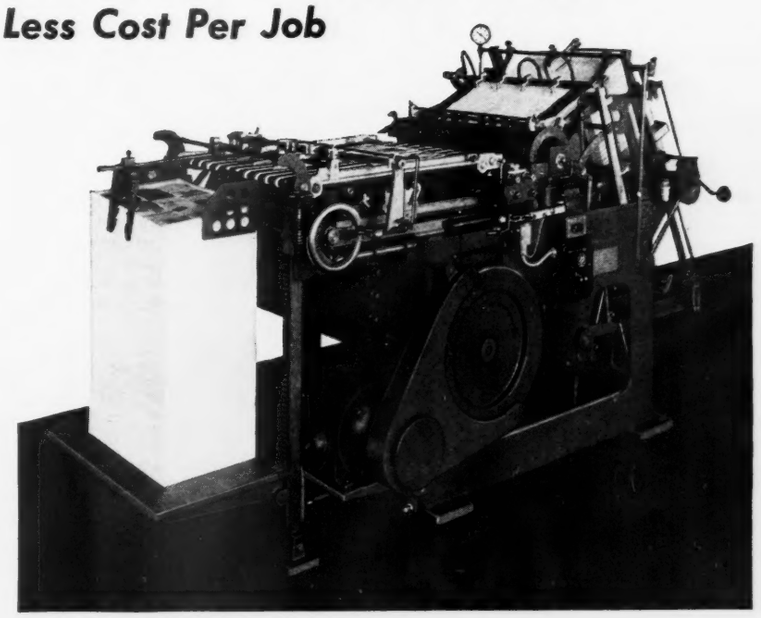
This modern press has two generations of printing machinery experience behind its design and construction. Reports from users are enthusiastic. Consider its benefits in your own shop. For further information write for a descriptive illustrated circular.



Net Weight 2500 Pounds

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Spencer W. Pitts, Assistant to the President of the J. M. Huber Corp., has been elected Secretary of the company by the board of directors. He will continue with his present duties as assistant

Spencer W. Pitts, elected Secretary of the J. M. Huber Corp.

to president H. W. Huber. He joined the Huber organization in 1945. Mr. Pitts received his L.L.B. from Harvard in 1932, after studying law at Trinity College, Cambridge, England.

Walter E. Wines, who retired on November 1 as manager of the mechanical department of the American Newspaper Publishers Association, is now associated with Chas. T. Main, Inc., of Boston as consultant in the preparation of studies, plans and specifications, and engineering supervision of newspaper, printing, and publishing plants. Mr. Wines entered newspaper work in 1899 when he was chosen to rebuild the Minneapolis *Tribune* which had been destroyed by fire. In 1907 he went with Arnold Co., Chicago and 3 years later became mechanical superintendent for the Chicago *Tribune*. Three years later he became production manager for the New York *Times*. Following World War I, Wines became a member of the faculty of the University of Wisconsin. In 1926 he joined the A.N.P.A. and inaugurated their mechanical department. In this connection during the next 22 years he developed a body of literature on newspaper printing where little existed before he began. Wines was a charter student at the Armour Institute of Technology when it opened in 1893. He was graduated in electrical engineering.

A Clean-Cut Proposition is the title of the second product movie produced by Harris-Seybold Co. In announcing the film H. A. Porter, Vice President in Charge of Sales, stated that it features a Seybold power paper cutter as the "leading man." Pictured in the foreground above is Art Walker, Central District Sales Manager, supervising the shooting of the movie. Running time of the full-color-and-sound film is approx. 15 min. It will be available for group showings to printers, lithographers, book binders, paper producers, and carton manufacturers.

Patents

For The GRAPHIC ARTS

New patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Covering patents issued June 7, June 14, June 21, June 28.

Binding, Cutting, Perforating

During the four weeks covered by this report, no patents have been issued for this heading.

Composing Room Equipment

2,473,214. TYPE LOCK is particularly adaptable to the locking of type matter in so-called mailing galleys, that is, type matter consisting of the names and addresses of subscribers to a newspaper. The improved galley lock comprises a thin stiff length of resilient material such as steel, which in its normal or unstressed condition is bowed along a major portion of its length on an arc having a radius, for example, of three inches. A rigid contact piece or bar is provided at its midpoint to provide contact between strip and the end slug of type in the galley. Device is placed against the end slug and wedged into place between galley walls. Use of thumb screw clamps and the like is eliminated. Invented by Ralph B. Orr, Logansport, Ind. Unassigned. Application October 31, 1947. 4 claims.

2,474,465. DEVICE FOR FILING TYPE MATRICES. Type matrices are automatically and mechanically filed to remove burs with this device. The machine cabinet has an inclined face and a chute arranged in same into which type to be filed is inserted at the top and from which each type is individually released at the bottom after being filed. The type is received on parallel rails on which a conveyor belt travels. Files are so arranged with relation to the rails and belt that the type is filed or smoothed as it is carried along the rails. The type is held on the belt by lugs from which it is automatically released by a mechanism near outlet opening at the bottom of the cabinet. Invented by Carl A. Carlton, Fort Worth, Texas. Unassigned. Application July 29, 1944. 2 claims.

Feeding, Folding, Delivery

2,474,150. SHEET TRANSFER GRIPPER MECHANISM represents a simplification in mechanism whereby registered sheets of material are conveyed in succession to a sheet carrying member of a printing press. Sheet gripping elements carried by the mechanism include gripper fingers and associated pads mounted for independent movement about a common axis. After having engaged a registered sheet the gripper fingers are automatically locked against any unintended motion, thus assuring that accurate registering position of sheet shall be retained. Sheet feeding speeds are increased. Invented by Arthur G. Jacobson, Chicago, Ill. Assigned, by mesne assignments, to The Miehle Printing Press & Manufacturing Co., Chicago, Ill. Application March 29, 1946. 6 claims.

Platemaking

2,472,304. PRINTING PLATES may be prepared according to the method of this invention. An aluminum surface is first coated with an artificially produced oxide coating over which a partial coating of an etch resisting material is applied. This latter coating is made the anode in an electrolytic cell, the electrolyte of which is an aqueous solution having as an essential etching component a hydroxide selected from the group consisting of barium and strontium. Invented by Ralph B. Mason, New Kensington, Pa. Assigned to Aluminum Company of America, Pittsburgh, Pa. Application March 13, 1944. 11 claims.

2,473,023. HALFTONE SCREEN HOLDER. Invention relates to a holder for the screens used in preparing half-tone plates. The screen holder is adapted for use in a process camera in the usual manner, and may be used in preparing half-tone printing plates by the use of projecting equipment

How to recognize a LEADER

In the photo-engraving field, you can spot a leading metal *every time.* Just look on the back of your sheet. If it bears the familiar trade mark of either Zomo Electric Zinc or A-Z Alloy you'll know that you are working with a metal of proved performance.

Each sheet of Zomo Electric Zinc or A-Z Alloy is melted and cast in the electric induction furnace to assure uniformity. Each sheet is precision rolled, Machine-Cut finished, Backoted . . . *and trade marked for your protection and easy identification.*

Remember A-Z Alloy, the tough, quick-etching metal for all long runs and heavy mat work. Zomo Electric Zinc is the recognized standard metal for all work.

Be sure of stand-out results; insist on these trade marks on the back of every sheet of zinc you use.

Get our FREE Photo-Engraving Zinc Book

It's a 72-page handbook for modern Photo-Engravers. It's crammed with factual information regarding the manufacture of Engravers Zinc . . . the etching of zinc and helpful hints for the Photo-Engraver.

ATLANTIC ZINC WORKS, Inc., 210 Van Brunt St., Brooklyn 31, N. Y.

such as an enlarger. In a modification shown, a rectangular frame has a central opening provided with a series of rabbeted steps adapted to receive screens of different outside dimensions. The stepped rabbets are so dimensioned from front of the frame that screen received in a particular rabbet will be the proper distance from front of frame. A screen of a given number of lines can be received only in a predetermined rabbet. Invented by Herbert Gelb, New York, N. Y. Assigned to Joseph Gelb, doing business as Joseph Gelb Co., New York, N. Y. Application September 11, 1944. 4 claims.

Printing Inks and Related Chemicals

2,472,125. TYPOGRAPHIC PRINTING INKS can be set or dried by the application of water thereto and are characterized by improved press-stability and toughness of film as compared with previously known inks of this type. The ink comprises pigment such as barium and calcium lithol red in a vehicle. The essential binder of the vehicle is a resin comprising the condensation product of terpineol and a phenol which is soluble in polyglycol. The resin is dissolved in a solvent of the group consisting of water-soluble polyglycols and their water-soluble monoethers. Invented by Charles A. Rietz, Park Ridge, Ill. Assigned to Interchemical Corporation, New York, N. Y. Application March 2, 1945. 2 claims.

Printing Presses and Equipment

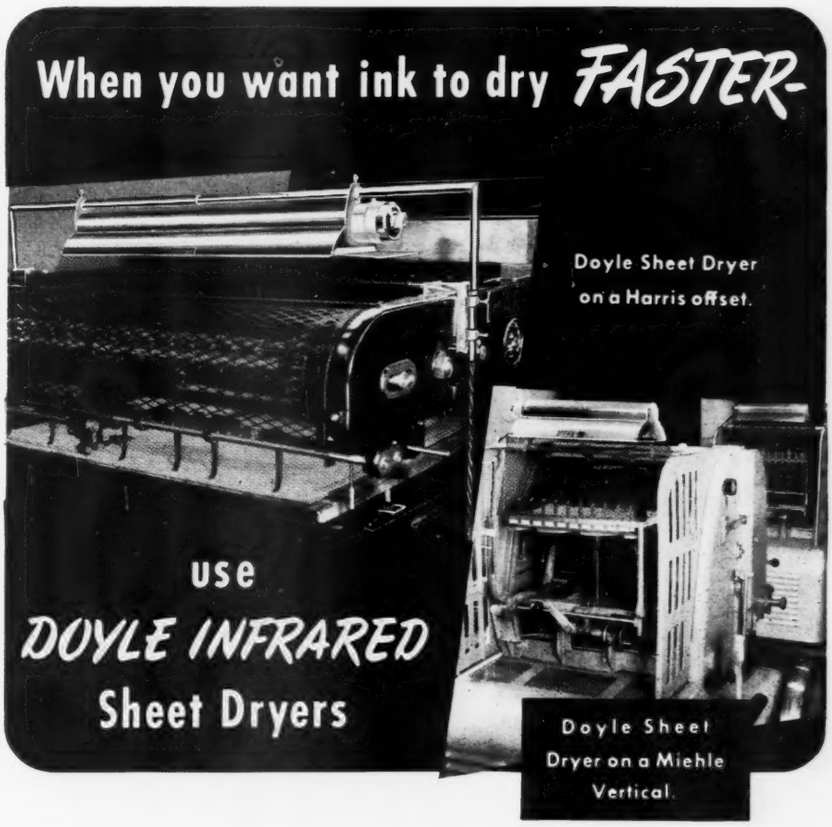
2,472,548. AUTOMATIC TENSIONING DEVICE FOR REELS. A tensioning means is produced for a reel in order to keep a web or strand tension constant in devices such as printing presses and the like. The reel is of the type employing well-known types of automotive brake equipment. An automotive brake secured to the reel shaft is controlled by a valve mechanism connected to a pivoted idler roller whose position is a function of the web or strand tension. Movements of idler roller about which web or strand is passed controls operation of a master cylinder governing the hydraulic brake operatively connected to reel shaft. Shock absorbers responsive to tension of flexible material prevent wide fluctuations of movement. Invented by Stev Schnell, Kirkwood, Mo. Assigned to Wagner Electric Corp., St. Louis, Mo. Application February 24, 1945. 4 claims.

2,474,127. CLAMPING APPARATUS FOR TENSION LOCKED PRINTING PLATES permits semi-cylindrical stereotype printing plates to be locked on the plate cylinders of presses under tension circumferentially of the cylinders. Rotation of the power driven plate cylinders performs both the locking and unlocking operations. A plurality of plate locking fingers are rockingly movable between retracted unlocking positions and extended locking positions. Retractable fingers cooperate with fixed fingers and retractable fingers are operated by movement of a lever on the plate cylinder. This lever is moved between locking and unlocking positions by rotary movement of the cylinder relative to a non-rotating cam surface adjacent its end. Locking and unlocking operations can be performed regardless of the direction in which the plate cylinder rotates. Invented by Paul L. Tollison, North Plainfield, and Charles L. Ricards, South Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application August 13, 1946. 5 claims.

2,474,160. DUCTOR ADJUSTMENT AND METHOD. Supporting arms are provided for the ductor roller of inking mechanism wherein the ductor roller is eccentrically mounted on the arms for adjustment purposes. The arms are eccentrically mounted in the frame of the press also for adjustment purposes so that proper contact can be obtained and maintained with respect to the fountain roller and an ink distribution drum or the like. Adjustment of supporting arms permits variations in the diameter of the roller to be overcome. Life of roller is prolonged and proper ink conveyance can be obtained at all times during use. Invented by Henri E. Peyrebrune, River Forest, Ill. Assigned, by mesne assignments, to Miehle Printing Press and Manufacturing Co., Chicago, Ill. Application May 9, 1947. 2 claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

When you want ink to dry FASTER-



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Experienced pressmen know that radiant heat speeds up ink-setting, cuts down offsetting, aids in the control of static. It's the concentrated *high temperature* radiant heat from Doyle Sheet Dryers, the result of Doyle exclusive design, that gives them their efficiency.

Whether you operate cylinder, platen, rotary, offset, gravure, newspaper or specialty presses, also ruling or coating machines or folders, Doyle Sheet Dryers will help you solve your problems. Write for complete information.

Manufacturers also of Doyle Vacuum Sheet Cleaners

New Trend for the Typographic Compositor?

THE services of the typographic composition house have been changing over a long period of years. Originally, the trade compositor offered only straight-matter composition in galley form to printers not blessed with the ownership of type or line-composing equipment.

The second step in the broadening of the services to be rendered advertisers consisted of furnishing either the original composition or reproduction proofs of advertising composition. In many cases, the blossoming out of the trade compositor into the advertising composition field was permitted by the apathy at that time of the printer and/or publisher who did not see fit to purchase new and additional type faces.

It wasn't long until the trade compositor began furnishing composition in completely made up pages or in locked-up type forms. He became allied with the electrotyper and photoengraver who made, and still do make, plates from which the composition is printed by letterpress.

The fourth phase in the last two decades in the composition business consists of the furnishing of reproduction proofs and/or transparencies for offset and gravure platemakers and printers. At the present time, 80 per cent of the total business volume of many trade typographers consists of furnishing reproduction proofs to offset-lith platemakers and printers maintaining their own platemaking facilities. A considerable percentage of trade composition and makeup still is electrotyped in cases where the composition has been set in foundry type.

During the last decade, a number of advertising typographers have installed offset platemaking facilities to the trade. Another, and more recent, development is that trade typographers are now in the typewriter-like composition business by furnishing reproduction proofs for making offset plates. We wish to interject the usual qualifying phrase here by repeating a statement made by the writer at the ITCA convention, Detroit, two years ago: No one claims typewriter-like composition for certain classes of work is the equal of hot-metal composition, but it appears to be good enough for the purposes of the man who uses it. Use of typewriter-like composition still is increasing.

It now appears that there may be a new development of more than passing interest in the typographic composition field. It consists of furnishing Vinylite molds for electrotyping and/or plastic plates molded from the typographic compositor's forms ready to be mounted on the printing press.

In a recent issue of a Bulletin to members of the International Typographic Composition Association, Executive Director Frank Sherman reports upon a visit he paid to the plant of the New Hampshire Typesetting Co., Concord, N. H. The plant is operated under the management of Kimball Loring, President of Boston's Machine Composition Co. The end product of this plant consists of doing the composition and making Vinylite molds for flat or curved electrotyping by the customer, or actually making flat or curved plastic printing plates for delivery to the customer. Mr. Sherman remarks: "It requires no stretch of the imagination to visualize the production of this type of work delivered to the customer in the form of plastic printing plates ready to be put on the press for letterpress printing."

The plant is equipped with seven Linotype machines which are Teletypesetter-operated. There isn't anything new about the application of Teletypesetter equipment to the operation of line-composing machines for publication and book composition. But the new application here is that a typographic composition house, executes the composition and makeup and also furnishes plastic plates ready for mounting on the press.

As reported by Mr. Sherman, the Teletypesetter-Linotype production in the plant of the Southern New Hampshire Typesetting Co., is confined largely to composition for fiction and non-technical books of various kinds and to

Put wings on your

Type

TYPE seems to fly from your composing machines when they're operated *automatically* by Teletypesetter. Publishers and printers report slug output as high as 350 to 400 lines of straight matter per hour and production increases up to 75% to 100%.

Automatic operation is achieved by means of tape punched on a Teletypesetter Perforator, which can be operated by anyone who knows standard touch-typing. When the tape is fed into a Teletypesetter Operating Unit mounted on the composing machine, slugs are cast.

If you're interested in getting the most out of your composing machines—if you want more type in less time—write today to:

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time and cut equipment costs...

CHALLENGE *expandable* HI-SPEED FURNITURE

Now — you can use one piece of furniture to fit *any* space from 30 ems to 50 ems in length. That's how Challenge Hi-Speed Furniture works. You can E-X-P-A-N-D it — from a closed size of 30 ems up to a maximum of 50 ems pica . . . 2 ems at a time. 620

Challenge Hi-Speed Furniture is strong and accurate. It holds firmly when expanded — will not give or yield under any normal pressure. Made in four sizes: 15x30 ems, 20x30 ems, 25x30 ems, 30x30 ems. Ask about this new furniture today.

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THE CHALLENGE MACHINERY CO.
"Over Fifty Years in the Service of the Graphic Arts"
MAIN OFFICE AND FACTORIES: GRAND HAVEN, MICH.

COSTS *Getting* TERRIFIC..?

Here's another way in which STAR can help you hold them **down!**

The STAR CLOSE RANGE Thermostat

. . . a precision instrument, eliminates the too-often troublesome Clapper Switch mechanism of the control box—as well as the Resistor Coil. It's a two-wire control which does away with three wires from the main cable.

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You Save

1—TIME IN MAINTENANCE
2—REPLACEMENT PARTS
3—PRODUCTION TIME—by closer temperature control
4—BROKEN WIRES IN MAIN CABLE

Many plants have, after a trial, standardized on this control. Technical description in folder which will be mailed upon request.

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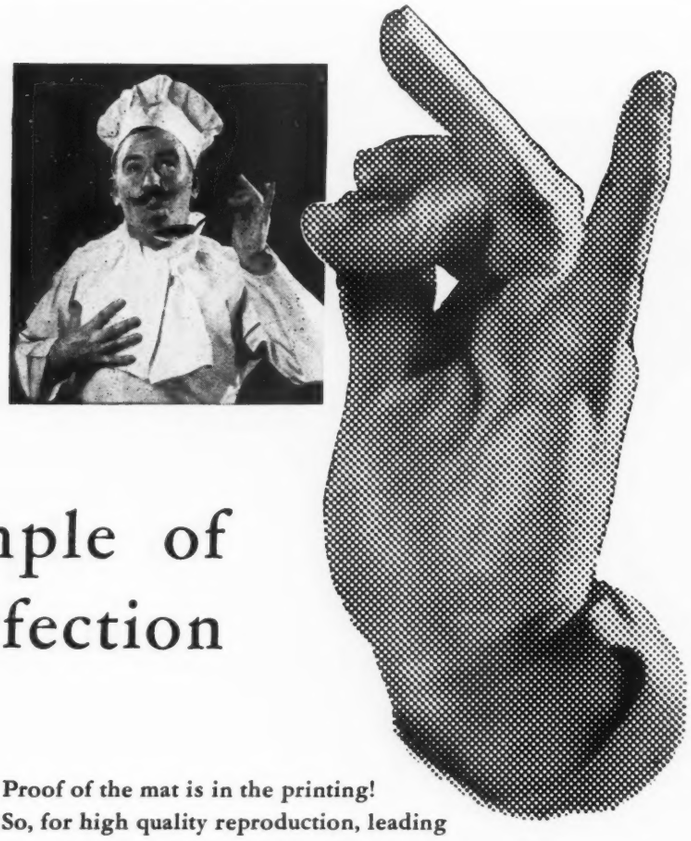
text matter for a couple of monthly publications.

The hand department where book work is made up, publication ads set, and the pages made up, is not different from similar departments in other typographic composition plants.

"It merely converts the machine production into pages for plating by adding hand work," said Mr. Sherman, who also stated "If the customer wishes to print by offset-lithography the usual reproduction proofs of completely made-up pages are supplied. . . . Thus not a Linotype slug nor a single piece of type goes out of the plant to the customer."

It appears that from the time of its birth, typographic composition houses have been coping with the metal problem. Operations in the composition house with respect to metal include delivery to the customer, charging for metal as well as composition, collecting the metal after use, crediting metal sold in the form of composition, etc. In many cases there is a shrinkage in the returned metal, the loss of which someone must bear, no matter how well intentioned the customer may be. It is the ideal mental ambition of every typographic compositor to either get rid of the metal problem entirely or to confine use of the metal within his own plant. One means for doing this, at least with respect to book and publication advertising composition, would be to install and operate plastic mold and platemaking equipment.

It is pointed out that the Southern New Hampshire Typesetting Co. is in a position to furnish (1) Composition in galley form, (2) Made-up typographic composition, (3) Reproduction proofs for photoengraving, gravure or offset platemaking purposes, (4) Vinylite molds from which flat or curved electrotypes can be made, and (5) Flat or curved plastic printing plates ready to be mounted on the press.



sample of perfection

Proof of the mat is in the printing! So, for high quality reproduction, leading stereotypers invariably choose Burgess Chrome Mats.

The ingredients which make up the perfection of Burgess mats are: quality raw materials, rigid control of process, constant checking and testing in every stage of manufacture. And, as a final test, a sample mat from every run is given a real tough form to reproduce. This is our sample of perfection . . . your insurance of highest quality reproduction.

BURGESS Chrome MATS

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

PIA Research Engineering Council

REVIEW of a list of approx. 150 individual research projects reporting research programs involving many hundreds of thousands of dollars occurred at the first meeting of the new PIA Research and Engineering Council which held its organization meeting in Detroit on June 24. About 70 attended the meeting. Frank Pfeiffer of Reynolds and Reynolds Co., Dayton, O., Chairman of the new council, pointed out that even though the report as submitted represents extensive research, it by no means reported all of the research under way in the industry. The confidential nature of some programs made it impossible for them to be included in the report.

The Council has been organized as the coordinating group for research for the industry. Membership will consist of Association Membership covering officially appointed representatives from associations, Company Membership covering official representatives of individual companies, and individuals having an active interest in research. The Council agreed to meet semi-annually and to have visitations to research laboratories in connection with semi-annual meetings. A Steering Committee will be appointed to carry out the activities of the Council between meetings. Staff for the Council is being furnished by Printing Industry of America. Initially, there will be 15 research groups working under the Steering Committee dealing with subjects such as paper, ink, composition, bindery, presswork, engineering, painting and lighting, original plates, duplicate plates, materials handling, engraving standards, standards, lithography and gravure. The last two research groups will function as liaison groups.

The six point policy of the Council, approved at the June 24 meeting, is as follows:

"First: We should keep constantly before us the fundamental objective of striving to produce a better product at a lower cost.

"Second: We do not intend to engage in fundamental laboratory research.

"Third: We shall strive to eliminate duplication of effort.

"Fourth: We must think in terms of

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"WE feel sure we can safely say that the *Printing Equipment Engineer* contains more information on the advanced processes of printing and lithographing and new machines than any of the other periodicals.

"Rawleigh T. Shepherd, Pres., "Monotype Typesetting and Foundry Co., "St. Louis, Mo."

what is good for the industry as an industry.

"Fifth: A most important policy is that we shall approach our problems with an affirmative attitude.

"Sixth: We recognize the existence and value of confidential engineering and research programs carried on by individual companies and groups for their immediate benefit."

The Research Council will continue sponsorship of the publication of the Printing Industry of America Research and Operations Manual series of studies on the technical problems of the industry. Twelve reports have already been issued in this manual. Many others are in preparation.

On the day prior to the Council meeting, the group made an inspection tour of the research and manufacturing facilities of the Dow Chemical Co. at Midland, Mich., as the guests of Leland I. Doan, President, and H. E. Swqyze of the Magnesium Technical Service and Development Division. The group was much interested in Dow's development of magnesium, of latex paper coating materials, and plastics, all of which have a use in the graphic arts industry.

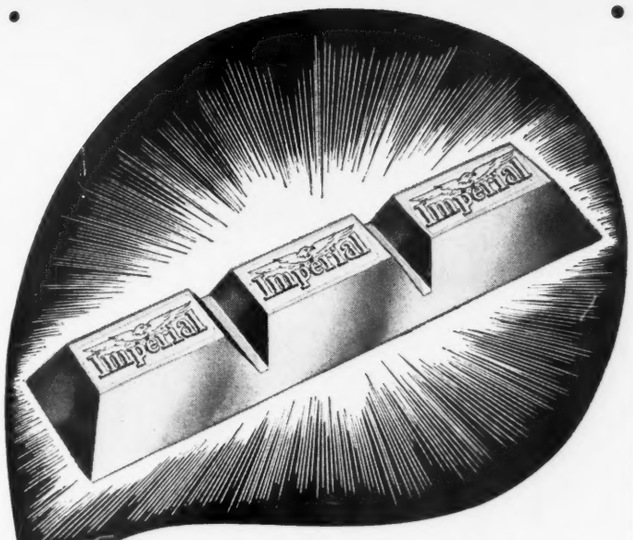
American Typography on the March

(Abstract from illustrated address by R. Hunter Middleton, Director Department of Typeface Design, Ludlow Typograph Co., given at the 24th Annual Conference on Printing Education, Pressmen's Home, Tenn., June 1949.)

DEPENDING upon one's point of view, American typography may be marching forward or backward. Undoubtedly there are typographic retreats as well as advances, but if the advances exceed the retreats there is a net gain. Over the twenty-five years of my own professional career, I am sure there has been a decided gain in the creativeness and effectiveness of American typography.

In 1946 there appeared in *Print* an article by A. Raymond Hopper entitled *Need For A Renaissance in Printing*. Mr. Hopper called attention to the change of emphasis by the printer from craftsmanship to that of the business man. He also asserted that while this country undoubtedly produces the greatest volume of printing per capita, yet printing as a craft had reached a lamentably low standard and that to gain the reputation of being the world's largest producer of mediocre printing was a dubious laurel.

Another writer, Oliver Simon, discussed *English Typography and the Industrial Age*, in a recent issue of his *Signature*. Mr. Simon writes: "Printing is a way of life. It can transcend the bounds of a mere trade and can take its place as one of the arts when the presiding genius at the printing office combines within himself the roles of business man, scholar and artist. If he lacks business acumen and knowledge of the mechanics of the craft, the printing office must inevitably languish and finally cease to function. If he has not acquired a sufficient degree of scholarship, he cannot successfully attempt to be a book printer in the fullest sense of the term. If he is not something of an artist, he cannot hope to evolve and maintain a typographic style. These three qualities are seldom combined in one person, but the printer who is liberally endowed with them can be sure of his place in the history of printing."



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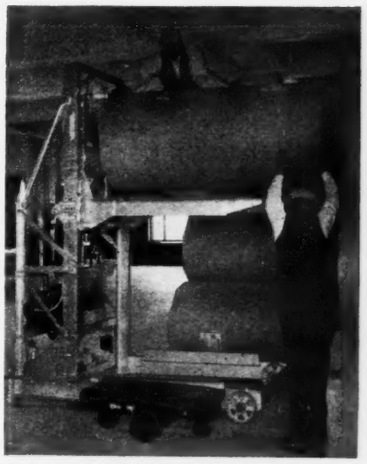

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I have stated that typography in America has made advances during the last 25 years. When we discover the origin of these advances, however, I believe that we can easily understand Mr. Hopper's criticism. The credit for the advances made for the most part cannot go to the printer. Somehow or other the printer has allowed the creative part of his work to be taken out of his hands.

You who teach printing in all its phases are fully aware of the fact that you are primarily training boys to become skilled in the techniques of printing. Perhaps this emphasis is natural and necessary in our technological world, but since printing, as an effective means of visual communication is dependent on creative design for that effectiveness and perhaps for its survival, I hope our vocational schools will always be on the alert to recognize the student whose talents may take him beyond the level of printing as a trade only. There is always the possibility that a potential Updike may be present in your classrooms waiting for the incentive that may start him on the career of a famous American printer.

The traditional source of distinguished typographic design has always been the printer trained at the case. When such individuals venture into printing as a business and find themselves endowed with sufficient scholarship and business sense to become successful, advancement in typography is assured. We have but to recall the influence of such combinations of individual designers and printing establishments as: Theodore Low Devinne and the Devinne Press; D. B. Updike and the Merrymount Press; Edwin and Robert Grabhorn and the Grabhorn Press; William Edwin Rudge and his press; or individuals such as Bruce Rogers, Frederic Warde, William A. Dwiggins, William A. Kittredge, etc. A few such presses still remain but too few are being replaced by new ones. In Chicago we look to the design departments of our large printing establishments and the advertising departments of our large department stores for distinguished typography. A few small shops which combine the artistic skill and good taste of their directors with conscientious craftsmanship are other sources of good typography.

In New York City the advertising agencies are beginning to realize that they have an obligation to their clients for the typographic design of printed advertising as well as layout, art and copy. In fact many of the large agencies now employ Type Directors as well as Art Directors. Most of these men were Art Directors with a flair for typographic design and are doing a splendid job of adding distinction to the typography of agency printed advertising.

Another source which has advanced American Typography is the work of the freelance designer. Such men start with an art training. When they approach the problem of type usage they are equipped to have an opinion as to the suitability of type as individual letter forms and the textural effect of type on the page. When it comes to paper selection they are less likely to select a paper for purely manufacturing ease than for suitability to the success of the printed piece. Such men as Lester Beal, Warren Chappell, Don May, Paul Rand, Bradbury Thompson, Taylor Poore and others have greatly enriched American typography.

Recently the Society of Typographic Arts in Chicago organized a course of eleven lectures on type, entitled *Types Alive!* One hundred-sixty people paid $30 each, in advance, for the course. Who were these people? Almost no printers, or printers' employees, and few agency people. Mostly, the audience consisted of freelance designers, studio people, members of art and advertising departments in large organizations, production people and some copy writers. In other words the people who know most about the technical use of type were not interested too much in the creative use of type.

Printing, or visual communication as we are wont to call it in this technological age, has lost most of its classic virtue. The traditional stability of the past can be replaced by a new stability genuinely creative and suitable to our time. Unfortunately, the majority of our printers have lost touch with the classical typography of the past and have acquired little knowledge of contemporary design. Having relinquished the responsibility of creative typography to others, the printer must either regain some of that responsibility or expect to buy from other sources that part of his business which he once possessed and sold at a handsome profit.

4th — Albert M. Grier
Lincoln Engraving Co.
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C. S. Shaler

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L. W. Babbitt

1st Prize: C. S. Shaler
Crystal Lake Herald, Crystal Lake, Ill.

2nd Prize: L. W. Babbitt
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3rd Prize: Leroy F. Dyer
Wellesley Engravers, Wellesley, Mass.

6th — Norman V. Plass
Graphic Arts Corp.
Toledo, Ohio

7th — Marvin N. Hough
Reliance Engraving Co.
Richmond, Va.

8th — John T. Richards
Bakersfield Californian
Bakersfield, Cal.

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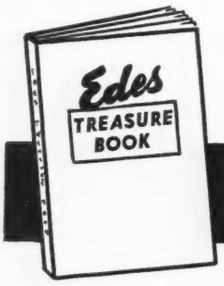

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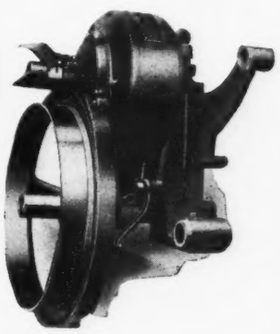

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Disappointed advertiser is bringing a little pressure by citing the fine production of photographic art he gets from the rival sheet.

"Most of the time you print our pictures O K, but about every other week you fall down. I like a paper that is ALWAYS well printed. Maybe the rival's consistent use of Certified Mats spells the difference."

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ITCA

Research Projects

THE Department of Technical Research and Standardization of the International Typographic Composition Assoc. is now under way. Executive Director Frank M. Sherman made announcement recently to ITCA members. The program was authorized at the 1948 Minneapolis ITCA convention.

Projects announced by Mr. Sherman are as follows:

No. 1—Developing use of character-count as a substitute for em-count in measuring output of typesetting machines for production and for sale to customers.

No. 2—Conversion to the character-count of data in the ITCA Guide to estimating production of slug-casting and Monotype typesetting machines.

No. 3—A manual for use in determining comparative degrees of difficulty inherent in copy for typesetting machines; typical samples of each classification will be included in the manual.

No. 4—Factual determination of actual impediment which measure and point sizes exert on production of machine typesetting.

No. 5—Determination of actual cost of operating single-machine installations in printing plants.

No. 6—Determination of those fundamental principles of layout and operation which apply particularly to composing rooms of ITCA members.

No. 7—Investigation of new machines, attachments, accessories and materials used by ITCA members in their composing rooms.

Standardization Projects

No. 1—Manual of production—amplification of ITCA Guide for Estimating production time of machine and hand composition and makeup.

No. 2—Creation of a manual for estimating cost of machine and hand-set composition and makeup.

No. 3—Standardization of fundamental symbols used in marking copy and promotion and use of these symbols by copy writers and editors.

Mr. Sherman also announced that Frederick W. Hoch, jr., has been engaged to assist in the ITCA technical research and standardization program. Mr. Hoch is a graduate of the Department of Publishing and Printing, Rochester Institute of Technology. His father is Frederick W. Hoch, well known New York printing engineer.

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● Under the glass of the skilled engraver there are no hidden secrets in a sheet of zinc. On the contrary, here is where the fine, uniform grain of Imperial Zinc shows up to best advantage.

Users of Imperial Zinc know that Imperial always prints up well, takes powdering with only normal care to prevent shoulders and undercutting, stands up even under multiple bites where extra depth is called for.

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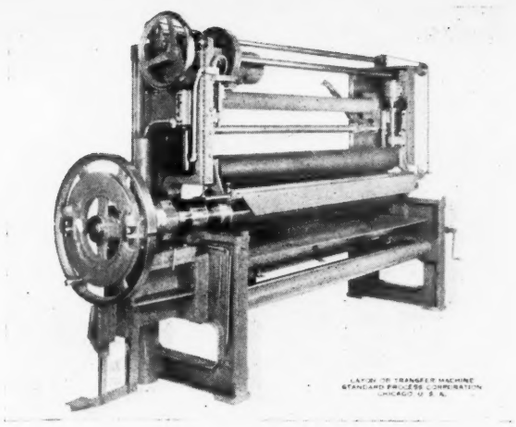
IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

A drive to tighten production, cost and quality standards in the plants of ATF, Incorporated group of companies has been aided by a series of banners posted in the factories, according to Thomas Roy Jones, ATF President. One of these is reproduced above in miniature form.

Effectiveness of the banners (cartoons) has been boosted by briefing plant supervisors before posting. ATF officials point out that the line supervisor is the key man in the communication chain. They also know that attitudes now held by employees and supervisors were built up in the 10-year period when there was a seemingly inexhaustible backlog of customers writing for products. These attitudes will not be changed by a one-day or a one-shot effort. The banners, it is explained, merely have been the graphic spearhead of a campaign of meetings, bulletins, special drives and other measures to run for at least six months.



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Manufactured in a wide range of sizes for transferring carbon tissue in perfect register to any number of cylinders. This is accomplished by means of a definite key between copy and cylinder, a positive method of fixing the cylinder in the machine and a device for checking accuracy of its position so it can be re-positioned any number of times. A lock on the dividing head secures the cylinder in position. The rubber impression roll is raised and lowered by a gear motor with pressure against the cylinder regulated by an adjustable control. Equipped with counter-balanced register bar, Vernier scale and scribe.

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NEW ENGLAND NEWSPAPER SUPPLY CO.

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Other things being equal, it's a foregone conclusion that **dependable** mats make **dependable** stereotype plates . . . and it's equally true that expert workmen can't make good casts with unpredictable mats. The best combination is your good workmen with **dependable** BEVERIDGE Mats. Use this combination in your plant and see the difference.

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CAST-IN IMMERSION HEATERS

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Electric stereotype melting with G-E heaters gives faster, more uniform heat distribution through precise temperature regulation. This adds up to minimum surface dross, more and better castings.

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GENERAL ELECTRIC

Protection Against Noise

By DR. W. SCHWEISHEIMER*

*Rye, N, Y,

A STUDY carried out by the New York State Department of Labor has shown there is a definite association between the degree of noise in an industry and the incidence of deafness. More than a thousand workers were investigated in the study, comprising all sorts of plants and factories, also clerical workers. The greatest incidence of deafness was found in the group subjected to noise between 80 and 90 decibels.

The loudest factory noise is that of hammering on steel plates. This noise approaches the level of physically painful sound. The pressroom noise factor is rated at 82 decibels. Zero is the threshold of audibility, while the unit decibel represents approximately the smallest variation of sound perceptible.

WOES of LENNY LINECASTER
WHAT ARE YOU DOING HERE IN THE MIDDLE OF THE NIGHT?
TRYING TO CATCH UP ON MY WORK.
BUSINESS MUST BE TERRIFIC!
GOOD ENOUGH, BUT I'M STUCK RESETTING A LOT OF STUFF BECAUSE SLUGS WON'T STAND UP!
YOU NEED MONOMELTS!
SINCE WE PUT 'EM IN, WE'VE HAD CLEAN, SOLID SLUGS EVERYTIME!
THAT SOUNDS LIKE A GOOD ANSWER TO ME, TOO!
NEXT NITE
LENNY SAYS:
Monomelt feeds only clean, preheated, molten metal into the linecasting machine pot. Monomelt's perfect temperature control assures steady production of sharp, clean-faced, solid slugs for all matrix sizes.
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MONOMELT CO., Inc.
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Noise from Large Presses

The clicking of line-casting machines is not loud but it is persistent and able to produce irritation and nervousness. At the Cambridge University Press in England twelve presses were operated intermittently, with all making a different noise. The printers used in this test were most affected at the beginning and the end of the noise, or from a change in the loudness or type of the noise.

In newspaper printing establishments in large cities sound-deadening ceilings have been placed in the composing room. Their purpose is to minimize the disturbing influence from the noise, and they are noticeably effective in this way. S. Kjaer has mentioned the covering of the floor of the composing room with battleship linoleum; it seems to absorb considerable quantities of the noise. From that point of view it seemed to him probably the most ideal floor covering.

Kjaer stated in his extensive study that the loud, deafening noise from large presses, especially in newspaper work, and coupled with the nervous strain of incessant watching of the machines, affected the printers considerably.

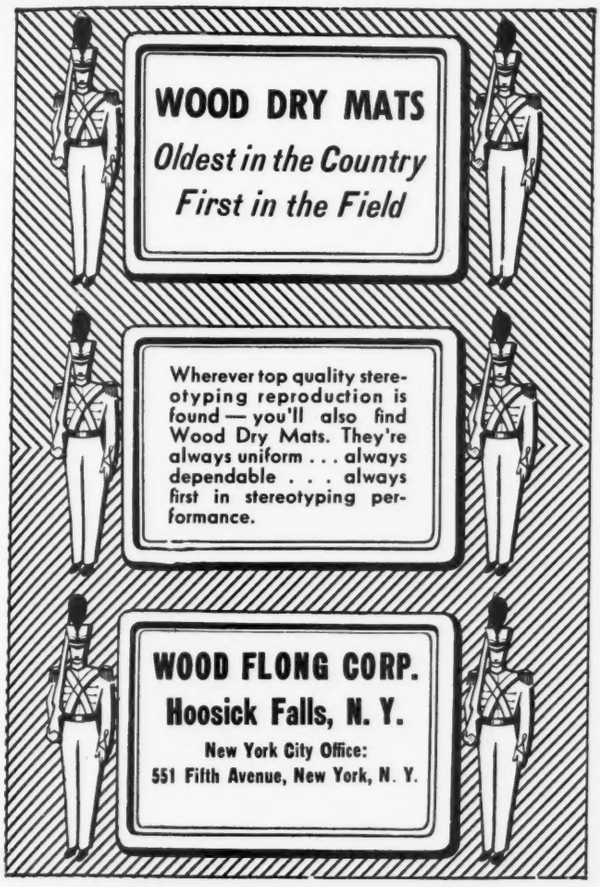
Nervous Fatigue by Noise

The opinion that a printing shop worker gets used to the noise, is not correct. Some workers become adapted to the noise to a certain degree, but even this adaptation is offset in the later hours by noise fatigue of the last few hours. In a report on noise, the British Industrial Health Research Board stated that even after years of work in a noise environment the worker does not become completely adapted or acclimated to noise, but goes through the process of adaptation daily. In noisy environment it is necessary to concentrate harder to accomplish the same amount of work, and this strain on nervous tension and attention produces fatigue. H. J. Sabine

"Vocational" Term Dropped

The Cincinnati Club of Printing House Craftsmen has been successful in its efforts to eliminate the word "vocational" as part of the name of the city's new $5 million high school, devoted to preparation of pupils for specific careers. According to Lee Augustine, head of the club's public relations committee and Vice President of the Printing Machinery Co., "Vocational is a good word, if the public at large would accept the precise meaning given in our dictionaries. But the use of this word over the years has had a tendency to draw a dividing line between careers.

"Now, with careers in the printing industry and other industries opening opportunities comparable to most of the professions, it seems to us we should minimize rather than aggravate any lines of distinction between crafts, skills, trades and professions." Serving on the committee with Mr. Augustine during the campaign which lasted several months were Henry B. Bond, Ralph Campbell, Perry P. Clark, Howard M. Keefe, and Percy Pracejus.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(C) Furnace equipped with atmospheric burner and bottom outlet.

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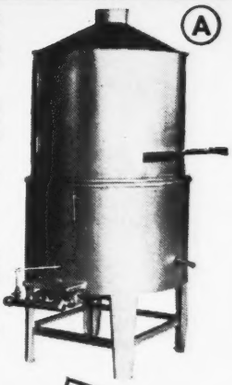

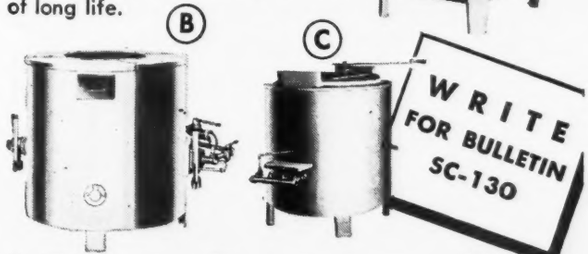

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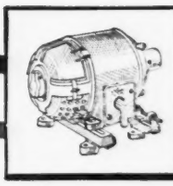

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and R. A. Wilson have stated that in quite a few instances noise has been a major factor in excessive labor turnover. They stress the necessity of preventing reverberation and of localizing the noise to the vicinity of the machine.

Nowadays we can measure the loudness of different noises and express the result in figures. This is done by special noise-meters (sound level meter) and audiometers, and the loudness is recorded in decibels or phons. If we take the average loudness of a conversational voice as about 50 decibels, a whisper at 5 ft. distance measures about 10 decibels which is very quiet. 50 decibels are produced also by a vacuum cleaner, the average office, a quiet auto, moderate restaurant clatter. The noise in the average busy street is 60 decibels. The noise of a pneumatic drill in the street rises to 90 decibels—somewhat more than in a pressroom or in a large typists' office.

Principles of Noise Reduction

There are four ways of reducing the production loss resulting from noise: Elimination of noise at its source, isolation of noisy operations, reduction of noise by sound insulation, and use of personal protective devices against noise.

The principles of noise reduction in factories and offices have recently been re-examined by M. A. Smith, acoustical engineer. In a report in *Engineering News-Record* he points out that the first principle of noise reduction is: Don't make it! Machine designers should consider the noises their creation produces. Machines with rotating parts in which the center of mass does not coincide with the axis of rotation, will produce noise at speeds above 1,200 r.p.m., increasing in loudness with the eccentricity. Unbalanced oscillating parts likewise offend. Many machines use impact to form materials where gentler pressing might be equally effective mechanically and almost noiseless.

Machinery offends in two ways, according to Smith: (1) The noise it produces is heard within the room and is enhanced in loudness by the room effect. The major room effect is reverberation. In a reverberant room, sounds persist and interfere with the audibility of sounds subsequently created. The noise absorption in a room can be increased by use of absorptive material; (2) If the vibrations of the machine are sufficiently vigorous and rapid, vibrations may convert the floor into a veritable loudspeaker. Even though the frequency of vibration of the machine may be too slow to be audible, if it is transmitted to a floor, loose objects on the floor may be disturbed or set into vibration, thus creating noise. Vibrations produced in floors are commonly transmitted to the entire structure and may sometimes be heard several floors away.

One method of eliminating this source of noise is to use a commercially available, properly designed resilient base, which should be hand tailored to suit the weight of the machine, the position of its center of gravity and the frequency of the imposed vibration.

Insulating the partition between a noisy and quiet room will not prevent sound from being carried over. The only safe procedure is to confine the noise by sound insulating all of the boundaries of either the noisy or quiet room. There are special sound-insulating partitions that can be constructed by anyone, Smith points out.

Worn Machine Parts

Causes of much noise are, according to A. D. Brandt and H. E. Seifert: Faulty design of machinery, worn machine parts, improper machine mounting, improper location of machines, and carelessness in operating machinery. Silent operation may be accomplished by replacing worn parts early, using well balanced parts, mounting machinery so that they will not vibrate, keeping moving parts well oiled, having direct or V belt drive in place of open gears, or using non-metallic gears where gears are needed, mounting machinery on appropriate bases.

C. P. McCord and J. D. Goodell, Detroit, want walls where possible to be constructed of materials of high density and mass to avoid noise. Still certain fibrous materials may be useful in spite of their low mass and density because of their low elasticity. The satisfactory operation of many machines is determined by the ear of the operator. In order to avoid the intermittent rattle of loose parts, friction of an unoiled surface, regular maintenance work on machinery and the damping of unnecessarily vibrating parts are indicated.

Good types of ear defenders, properly fitted, may reduce loudness of ambient noises as much as 80 percent at certain levels. Many workers resist the idea of introducing anything into their ears. But even a 5 or 10 decibel reduction is important when we are just treading on the borderline of discomfort. Work in extreme noise decidedly takes more out of the worker than the same amount of labor in quiet surroundings.

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Pitch Line

(Continued from Page 46)

A cylinder press on the other hand, is most usually an integral unit. To secure various desired effects, a pressman may slightly overpack or underpack, and still feed and deliver his sheets satisfactorily. However, off standard operation should only be attempted to secure a specific result, and with a full understanding of the disadvantages which are also being realized.

Cylinder Press Accuracy

Accuracy is first built into the cylinder press itself through choice of the best materials and by holding all machined parts to an exact tolerance. Any part outside of this limit is rejected. The metal ink fountain roller, for example, must be true within 0.0001 in.

While the heavy parts supporting the bed and cylinder in the form of frame and cross supports or stays are really the heart of a cylinder press, a very important member is the roller on the slider carriage between the bed and the frame. These rollers are directly responsible for a rigid impression so the diameter of

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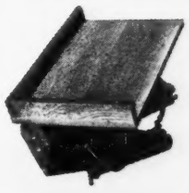

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each is held within 0.0003 in. The steel tracks for these rollers are held to 0.0005 in. for thickness.

A rigid impression is tied in with accuracy. Any weak areas either in the cylinder or bed will give under pressure although these same areas may gauge correct when no stress is applied. It would be difficult for the pressman to locate these weak areas and measure the deflection.

Using Test Blocks

So the research department of the press manufacturer developed a method for locating these weak spots. Actual measurement of deflection under stress of any area in the bed or cylinder can thereby be found. Special test blocks, when placed between the cylinder and bed, set up a pressure about equal to the conditions obtained when printing a heavy form, a pressure which may be more than 70 lb. per longitudinal inch of cylindrical contact with the printing surface.

Readings are taken every few inches across the width of the bed and cylinder. A chart is then made out showing variations and the amounts recorded. By repeating the observations at different points, the long way of the bed, a record is obtained which shows the actual conditions of the printing contact area over the entire bed under printing pressure.

Accuracy must be first in the cylinder, then in the bed and its supports and finally in the erection of the press which includes careful leveling. By this method of checking it is possible to point to any spot which needs adjustment, correction or replacement.

All new presses are put through this test before leaving the factory and a record chart is kept for future reference. Presses that have been in service a long period of time and showing wear on the forms can be tested as above by erectors and put in good shape.

Minimizing Makeready Time

It is a revelation to compare makeready time on a cylinder press carefully checked and leveled in a plant where the forms are held to very close limits with the time needed with the ordinary press which is out of level and where forms may vary as much as 0.010 in. The time is wasted in compensating for inaccuracies in presses and forms and generally an excess squeeze is resorted to under present accelerated working conditions which often shows in slurs, wrinkles and premature and excessive wear on the edges of forms and their units.

Value of Bearers

An analysis of plate and impression cylinder action would hardly be comtlete without some consideration of the value of bearers.

Bearers are provided on rotary presses and on cylinder presses for a definite purpose, and their use is almost as important to good printing as proper packing thickness.

Although some pressmen tend to consider bearers only as a sort of gauge to indicate when their cylinders are square, the correct use of them is to provide a steadying effect to the plate and impression cylinders, or bed and impression cylinder while running.

Not only should the bearers on a press

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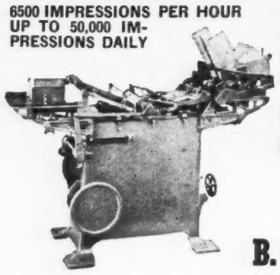

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be brought together so that they touch, but they should be forced together firmly enough that they will not open up when running the heaviest of solids.

In Fig. 3 is illustrated the value of bearers. At 3A is depicted a plate and impression cylinder, or on a cylinder press, a bed and cylinder operating with no bearers.

For the sake of illustration an excess of clearance is shown around the cylinder journals. In addition to the journal clearance, there is also some slight clearance around the eccentric cylinder boxes, or throw-off blocks. At 3A is shown the condition which exists when a solid or other heavy form is being printed. The cylinders are forced apart by the printing pressure between the plate and impression cylinder which is greater than the weight of the plate cylinders.

In Fig. 3B the cylinder has rotated far enough that a gap between two plates, or an open area is reached. With no bearers to support the cylinder, it drops into the gap to the extent that journal clearance and play will permit. If it should happen that this is not a gap, but a particularly light portion of the form, extra heavy impression will result, if the form is not heavy enough to support the cylinder.

It is easy to visualize what occurs when the cylinder rotates far enough to again be printing a solid area. The pressure needed for the solid will force the cylinders apart, but the leading edge of the solid will tend to dig into the impression cylinder, as the burden of raising the cylinder will fall on this leading edge.

Not only does this result in poor quality work and worn plates, but at high speed, the constant jumping around of the cylinders is a serious restriction on the output of the press.

In Fig. 3C is depicted the condition where bearers are used correctly. It is true that we have the same clearance, and perhaps worn journals exist as in the case described above. However, regardless of whether an open form or heavy solid or even no plate at all is on the press, the cylinders roll smoothly on the bearers with no slop or shake, and consistently good work is possible.

Conclusions

In concluding this brief discussion, we wish to again emphasize the several major points which have been brought out. These are:

(a) A press should always be plated and packed to the correct height for true rolling action. It is not enough that the plate and paper should meet; there is only one point at which they can meet correctly, and this has been predetermined by the builder of the press.

(b) Always operate the press with the bearers so firmly in contact that they are not opening and closing as the printing pressure varies.

(c) The best results are obtained with as little impression pressure as is necessary for good printing. Excess squeeze leads to many troubles.

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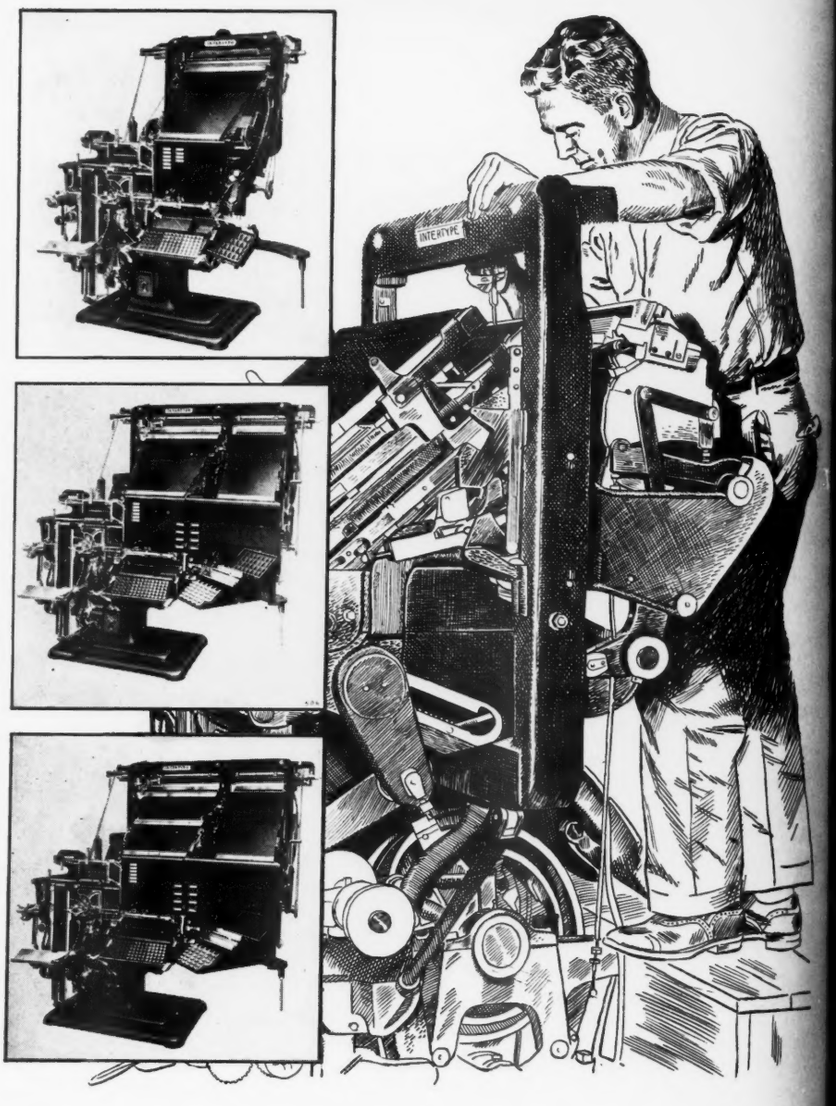

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